

INDIVIDUAL COUNTRY PROFILES

ANTI-TUBERCULOSIS DRUG RESISTANCE IN THE WORLD

ANNEX 2

AUSTRALIA

YEAR OF SURVEY: **1996**

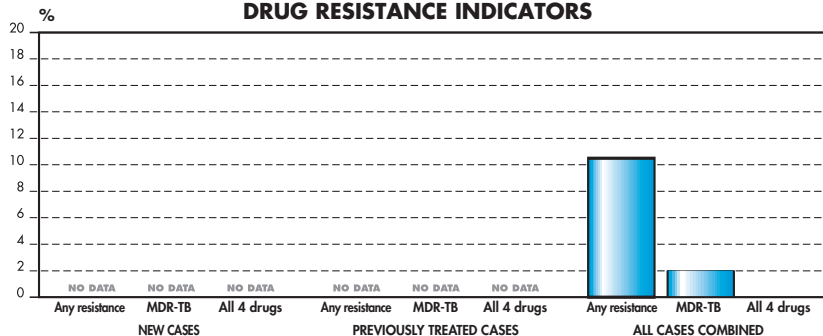
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 18 310 000 • World Bank Income Category: High-income • Tuberculosis case notification: 5.4/100 000 • Tuberculosis estimated incidence: 8.0/100 000 • Notified incidence of new sputum smear positive TB: 207 cases 1.1/100 000 • Treatment success: Not available • Previously treated cases: 6.0% of all patients registered • MTB/HIV estimated co-infection rate: 4.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 5 • Year N.T.P. was established: 1950 • Year of Rifampicin Introduction: 1968 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 96% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Suceptibility Testing Method: Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 100.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested					750	100
SUSCEPTIBLE TO ALL 4 DRUGS					671	89.5
ANY RESISTANCE					79	10.5
- Isoniazid (INH)					73	9.7
- Rifampicin (RMP)					16	2.1
- Ethambutol (EMB)					2	.3
- Streptomycin (SM)					14	7.3*
MONORESISTANCE					60	8.0
- Isoniazid (INH)					54	7.2
- Rifampicin (RMP)					1	.1
- Ethambutol (EMB)					1	.1
- Streptomycin (SM)					4	2.4*
MULTIDRUG RESISTANCE					15	2.0
- INH + RMP					8	1.1
- INH + RMP + EMB					1	.1
- INH + RMP + SM					6	.8
- INH + RMP + EMB + SM					0	.0
OTHER PATTERNS					4	.5
- INH + EMB					0	.0
- INH + SM					4	.5
- INH + EMB + SM					0	.0
- RMP + EMB					0	.0
- RMP + SM					0	.0
- RMP + EMB + SM					0	.0
- EMB + SM					0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0					671	89.5
- 1					60	8.0
- 2					12	1.6
- 3					7	.9
- 4					0	.0

* Only approximately 20% of strains are tested for SM in Australia

BELGIUM

YEAR OF SURVEY: **1997***

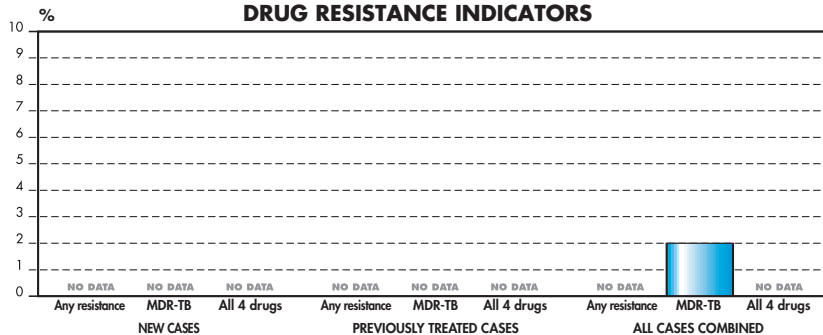
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 10 170 226 • World Bank Income Category: High-income • Tuberculosis case notification: 12.7/100 000 • Tuberculosis estimated incidence: 16.0/100 000 • Notified incidence of new sputum smear positive TB: 434 cases 4.3/100 000 • Treatment success: 80% • Previously treated cases: 9.9% of all patients registered • MTB/HIV estimated co-infection rate: 10.0/100 000 • HIV-positive TB cases: 4.0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: • Year of Rifampicin Introduction: 1967 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: Not available • Use of Directly Observed Therapy: during 1st 2 months: Yes (2% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (4% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Suceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 90.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



* Provided data only for INH and RMP resistance

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested					791	100
SUSCEPTIBLE TO ALL 4 DRUGS						
ANY RESISTANCE						
- Isoniazid (INH)					84	10.6
- Rifampicin (RMP)					19	2.4
- Ethambutol (EMB)						
- Streptomycin (SM)						
MONORESISTANCE						
- Isoniazid (INH)					68	8.6
- Rifampicin (RMP)					3	.4
- Ethambutol (EMB)						
- Streptomycin (SM)						
MULTIDRUG RESISTANCE						
- INH + RMP					16	2.0
- INH + RMP + EMB						
- INH + RMP + SM						
- INH + RMP + EMB + SM						
OTHER PATTERNS						
- INH + EMB						
- INH + SM						
- INH + EMB + SM						
- RMP + EMB						
- RMP + SM						
- RMP + EMB + SM						
- EMB + SM						
NUMBER OF DRUGS RESISTANT TO:						
- 0						
- 1						
- 2						
- 3						
- 4						

* No testing for SM and EMB

BOTSWANA

YEAR OF SURVEY: 1999

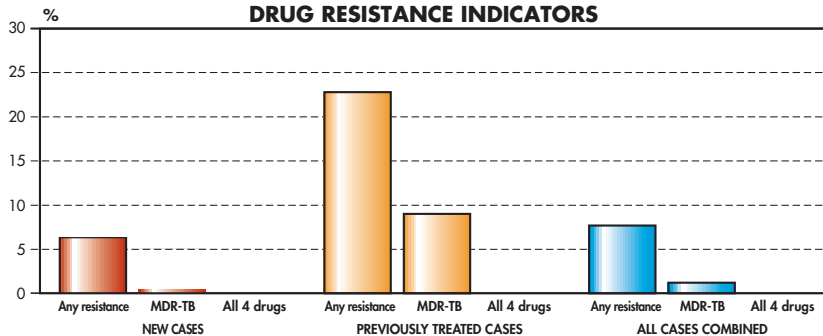
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 1 500 000 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 455.7/100 000 • Tuberculosis estimated incidence: 503.0/100 000 • Notified incidence of new sputum smear positive TB: 2 826 cases 180/100 000 • Treatment success: 70% • Previously treated cases: 8.7% of all patients registered • MTB/HIV estimated co-infection rate: 4 781.0/100 000 • HIV-positive TB cases: 50.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1975 • Year of Rifampicin Introduction: 1986 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Random | Drug Susceptibility Testing Method: Resistance Ratio |
| Sampling Fraction: 10% | Laboratory accuracy: 94.0% |
| Study duration: 5 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	638	100	145	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	598	93.7	112	77.2		92.3
ANY RESISTANCE	40	6.3	33	22.8		7.7
- Isoniazid (INH)	28	4.4	24	16.6		5.4
- Rifampicin (RMP)	4	.6	19	13.1		1.7
- Ethambutol (EMB)	1	.2	4	2.8		.4
- Streptomycin (SM)	14	2.2	7	4.8		2.4
MONORESISTANCE	34	5.3	18	12.4		5.9
- Isoniazid (INH)	23	3.6	9	6.2		3.8
- Rifampicin (RMP)	1	.2	6	4.1		.5
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	10	1.6	3	2.1		1.6
MULTIDRUG RESISTANCE	3	.5	13	9.0		1.2
- INH + RMP	2	.3	7	4.8		.7
- INH + RMP + EMB	0	.0	3	2.1		.2
- INH + RMP + SM	1	.2	3	2.1		.3
- INH + RMP + EMB + SM	0	.0	0	.0		.0
OTHER PATTERNS	2	.3	2	1.4		.3
- INH + EMB	0	.0	1	.7		.1
- INH + SM	2	.3	1	.7		.3
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	1	.2	0	.0		.1
NUMBER OF DRUGS RESISTANT TO:						
- 0	598	93.7	112	77.2		92.3
- 1	34	5.3	18	12.4		5.9
- 2	5	.8	9	6.2		1.3
- 3	1	.2	6	4.1		.5
- 4	0	.0	0	.0		.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

CANADA

YEAR OF SURVEY: **1997**

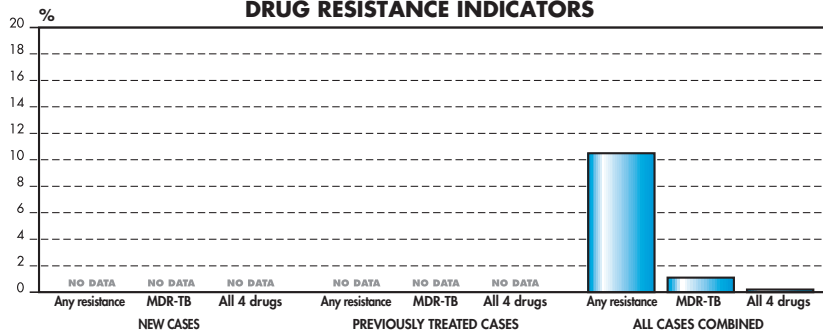
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 30 008 416 • World Bank Income Category: High-income • Tuberculosis case notification: 6.6/100 000 • Tuberculosis estimated incidence: 7.0/100 000 • Notified incidence of new sputum smear positive TB: 447 cases 1.7/100 000 • Treatment success: Not available • Previously treated cases: 10.0% of all patients registered • MTB/HIV estimated co-infection rate: 10.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 5 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1969 • Standardized Regimens: No • Use of Short Course Chemotherapy: % not available • Use of Directly Observed Therapy: during 1st 2 months: Not available (% of patients) • Use of Fixed Dose Combination: Not available • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|---------------------------------------------------|
| Target Area: Country-wide | Culture Media: Various |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 98.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested					1 593	100
SUSCEPTIBLE TO ALL 4 DRUGS					1 425	89.5
ANY RESISTANCE					168	10.5
- Isoniazid (INH)					126	7.9
- Rifampicin (RMP)					18	1.1
- Ethambutol (EMB)					21	1.3
- Streptomycin (SM)					82	5.1
MONORESISTANCE					108	6.8
- Isoniazid (INH)					66	4.1
- Rifampicin (RMP)					1	.1
- Ethambutol (EMB)					5	.3
- Streptomycin (SM)					36	2.3
MULTIDRUG RESISTANCE					17	1.1
- INH + RMP					6	.4
- INH + RMP + EMB					1	.1
- INH + RMP + SM					7	.4
- INH + RMP + EMB + SM					3	.2
OTHER PATTERNS					43	2.7
- INH + EMB					7	.4
- INH + SM					31	1.9
- INH + EMB + SM					5	.3
- RMP + EMB					0	.0
- RMP + SM					0	.0
- RMP + EMB + SM					0	.0
- EMB + SM					0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0					1 425	89.5
- 1					108	6.8
- 2					44	2.8
- 3					13	.8
- 4					3	.2

CENTRAL AFRICAN REPUBLIC (Bangui)

YEAR OF SURVEY: 1998

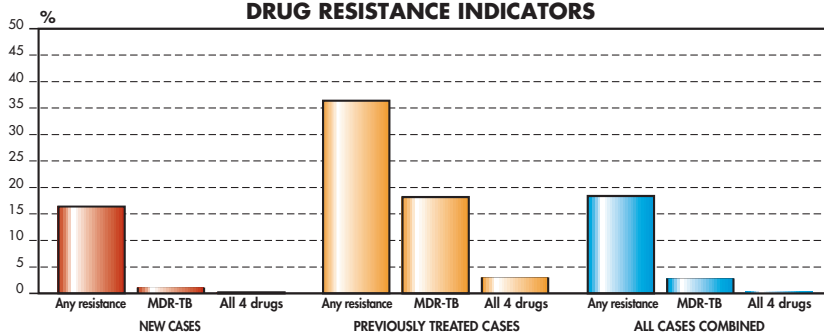
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 620 000 • World Bank Income Category: Low-income • Tuberculosis case notification: 139.9/100 000 • Tuberculosis estimated incidence: 237/100 000 • Notified incidence of new sputum smear positive TB: 2 637 cases 75.7/100 000 • Treatment success: 65% • Previously treated cases: 9.9% of all patients registered • MTB/HIV estimated co-infection rate: 2 119.0/100 000 • HIV-positive TB cases: 48.5% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: 1995 • Year of Rifampicin Introduction: 1980 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|------------------------------------------------------|
| Target Area: Capital City | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Suceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 97.0% |
| Study duration: 3 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	464	100	33	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	388	83.6	21	63.6		81.6
ANY RESISTANCE	76	16.4	12	36.4		18.4
- Isoniazid (INH)	44	9.5	10	30.3		11.5
- Rifampicin (RMP)	6	1.3	7	21.2		3.3
- Ethambutol (EMB)	11	2.4	6	18.2		3.9
- Streptomycin (SM)	51	11.0	4	12.1		11.1
MONORESISTANCE	50	10.8	4	12.1		10.9
- Isoniazid (INH)	19	4.1	3	9.1		4.6
- Rifampicin (RMP)	1	.2	0	.0		.2
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	30	6.5	1	3.0		6.1
MULTIDRUG RESISTANCE	5	1.1	6	18.2		2.8
- INH + RMP	2	.4	0	.0		.4
- INH + RMP + EMB	2	.4	3	9.1		1.3
- INH + RMP + SM	0	.0	2	6.1		.6
- INH + RMP + EMB + SM	1	.2	1	3.0		.5
OTHER PATTERNS	21	4.5	2	6.1		4.4
- INH + EMB	1	.2	1	3.0		.5
- INH + SM	13	2.8	0	.0		2.5
- INH + EMB + SM	6	1.3	0	.0		1.2
- RMP + EMB	0	.0	1	3.0		.3
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	1	.2	0	.0		.2
NUMBER OF DRUGS RESISTANT TO:						
- 0	388	83.6	21	63.6		81.6
- 1	50	10.8	4	12.1		10.9
- 2	17	3.7	2	6.1		3.9
- 3	8	1.7	5	15.2		3.1
- 4	1	.2	1	3.0		.5

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

CHILE

YEAR OF SURVEY: **1997**

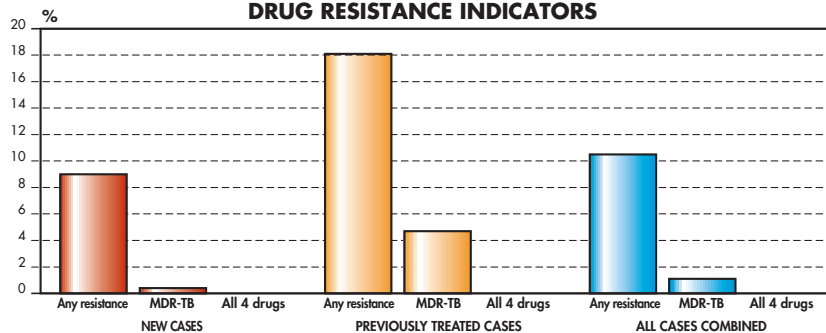
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 14 622 350 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 26.5/100 000 • Tuberculosis estimated incidence: 29.0/100 000 • Notified incidence of new sputum smear positive TB: 1 524 cases 10.2/100 000 • Treatment success: 80% • Previously treated cases: 16.0% of all patients registered • MTB/HIV estimated co-infection rate: 21.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1973 • Year of Rifampicin Introduction: 1982 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (99% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <1.5% in private sector
Category 3: 1.5% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------------------|------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Suceptibility Testing Method: Proportion |
| Sampling Fraction: 50% | Laboratory accuracy: 100.0% |
| Study duration: 6 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	732	100	149	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	664	90.7	122	81.9		89.3
ANY RESISTANCE	66	9.0	27	18.1		10.5
- Isoniazid (INH)	28	3.8	16	10.7		4.9
- Rifampicin (RMP)	5	.7	9	6.0		1.5
- Ethambutol (EMB)	0	.0	1	.7		.1
- Streptomycin (SM)	54	7.4	19	12.8		8.2
MONORESISTANCE	46	6.3	13	8.7		6.7
- Isoniazid (INH)	9	1.2	3	2.0		1.4
- Rifampicin (RMP)	1	.1	1	.7		.2
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	36	4.9	9	6.0		5.1
MULTIDRUG RESISTANCE	3	.4	7	4.7		1.1
- INH + RMP	2	.3	3	2.0		.6
- INH + RMP + EMB	0	.0	1	.7		.1
- INH + RMP + SM	1	.1	3	2.0		.4
- INH + RMP + EMB + SM	0	.0	0	.0		.0
OTHER PATTERNS	17	2.3	7	4.7		2.1
- INH + EMB	0	.0	0	.0		.0
- INH + SM	16	2.2	6	4.0		2.5
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	1	.1	1	.7		.2
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	1	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	664	90.7	122	81.9		89.3
- 1	46	6.3	13	8.7		6.7
- 2	19	2.6	10	6.7		3.3
- 3	1	.1	4	2.7		.5
- 4	0	.0	0	.0		.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

CHINA (Henan Province)

YEAR OF SURVEY: **1996**

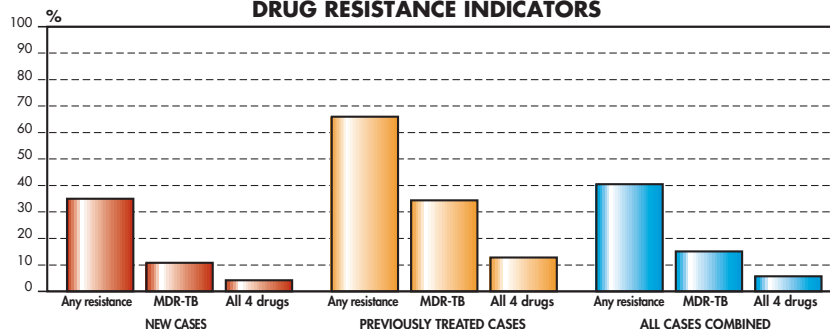
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 92 000 000 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 34.4/100 000 • Tuberculosis estimated incidence: 100.0/100 000 • Notified incidence of new sputum smear positive TB: 9 422 cases 10.2/100 000 • Treatment success: 91% • Previously treated cases: 17.9% of all patients registered • MTB/HIV estimated co-infection rate: 12.0/100 000 • HIV-positive TB cases: 0.0% | <ul style="list-style-type: none"> • WHO Control Category: 2 • Year N.T.P. was established: 1991 • Year of Rifampicin Introduction: 1972 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 41% • Use of Directly Observed Therapy: during 1st 2 months: Yes (41% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (20% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: Province	Culture Media: Löwenstein-Jensen
Sampling Method: Proportionate cluster	Drug Susceptibility Testing Method: Proportion
Sampling Fraction: 11%	Laboratory accuracy: 90.8%
Study duration: 9 months	Rifampicin specificity: 92.0%

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		COMBINED*	
	N	%	N	%	N	%
Total number of strains tested	646	100	726	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	420	65.0	247	34.0		59.5
ANY RESISTANCE	226	35.0	479	66.0		40.5
- Isoniazid (INH)	155	24.0	354	48.8		28.4
- Rifampicin (RMP)	94	14.6	316	43.5		19.7
- Ethambutol (EMB)	50	7.7	137	18.9		9.7
- Streptomycin (SM)	168	26.0	368	50.7		30.4
MONORESISTANCE	86	13.3	112	15.4		13.7
- Isoniazid (INH)	33	5.1	35	4.8		5.1
- Rifampicin (RMP)	9	1.4	19	2.6		1.6
- Ethambutol (EMB)	3	.5	4	.6		.5
- Streptomycin (SM)	41	6.3	54	7.4		6.5
MULTIDRUG RESISTANCE	70	10.8	250	34.4		15.1
- INH + RMP	9	1.4	36	5.0		2.0
- INH + RMP + EMB	1	.2	9	1.2		.3
- INH + RMP + SM	33	5.1	112	15.4		7.0
- INH + RMP + EMB + SM	27	4.2	93	12.8		5.7
OTHER PATTERNS	70	10.8	117	16.1		10.6
- INH + EMB	2	.3	2	.3		.3
- INH + SM	42	6.5	58	8.0		6.8
- INH + EMB + SM	8	1.2	9	1.2		1.2
- RMP + EMB	1	.2	6	.8		.3
- RMP + SM	9	1.4	28	3.9		1.8
- RMP + EMB + SM	5	.8	13	1.8		1.0
- EMB + SM	3	.5	1	.1		.4
NUMBER OF DRUGS RESISTANT TO:						
- 0	440	65.0	247	34.0		62.0
- 1	86	13.3	112	15.4		13.7
- 2	66	10.2	131	18.0		11.6
- 3	47	7.3	143	19.7		9.5
- 4	27	4.2	93	12.8		5.7

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP.

CHINA (Guangdong Province)

YEAR OF SURVEY: **1998-99***

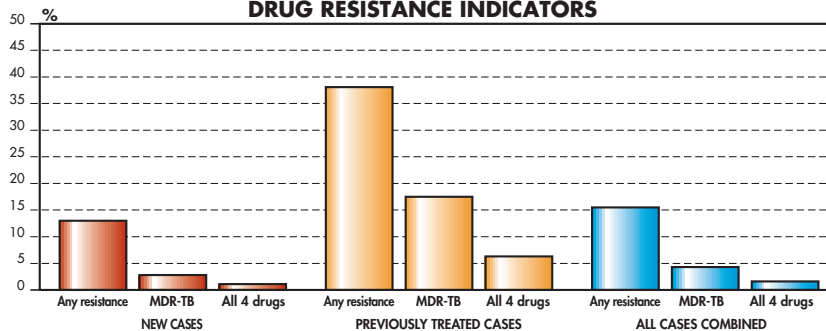
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 70 137 262 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 52.3/100 000 • Tuberculosis estimated incidence: 52.0/100 000 • Notified incidence of new sputum smear positive TB: 26 200 cases 37.4/100 000 • Treatment success: 94% • Previously treated cases: 10.0% of all patients registered • MTB/HIV estimated co-infection rate: 12.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1992 • Year of Rifampicin Introduction: 1980 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: Province	Culture Media: Löwenstein-Jensen
Sampling Method: Proportionate cluster	Drug Susceptibility Testing Method: Resistance ratio
Sampling Fraction: 5%	Laboratory accuracy: 95.8%
Study duration: 12 months	Rifampicin specificity: 97.0%

DRUG RESISTANCE INDICATORS



* Preliminary

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	461	100	63	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	401	87.0	39	61.9		84.5
ANY RESISTANCE	60	13.0	24	38.1		15.5
- Isoniazid (INH)	43	9.3	15	23.8		10.8
- Rifampicin (RMP)	16	3.5	14	22.2		5.3
- Ethambutol (EMB)	11	2.4	9	14.3		3.6
- Streptomycin (SM)	28	6.1	13	20.6		7.5
MONORESISTANCE	37	8.0	9	14.3		8.7
- Isoniazid (INH)	22	4.8	2	3.2		4.6
- Rifampicin (RMP)	2	.4	1	1.6		.5
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	13	2.8	6	9.5		3.5
MULTIDRUG RESISTANCE	13	2.8	11	17.5		4.3
- INH + RMP	4	.9	4	6.3		1.4
- INH + RMP + EMB	2	.4	3	4.8		.9
- INH + RMP + SM	2	.4	0	.0		.4
- INH + RMP + EMB + SM	5	1.1	4	6.3		1.6
OTHER PATTERNS	10	2.2	4	6.3		2.1
- INH + EMB	1	.2	0	.0		.2
- INH + SM	6	1.3	1	1.6		1.3
- INH + EMB + SM	1	.2	1	1.6		.4
- RMP + EMB	1	.2	1	1.6		.4
- RMP + SM	0	.0	1	1.6		.2
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	1	.2	0	.0		.2
NUMBER OF DRUGS RESISTANT TO:						
- 0	401	87.0	39	61.9		84.5
- 1	37	8.0	9	14.3		8.7
- 2	13	2.8	7	11.1		3.6
- 3	5	1.1	4	6.3		1.6
- 4	5	1.1	4	6.3		1.6

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

CHINA (Hong Kong SAR*)

YEAR OF SURVEY: 1996

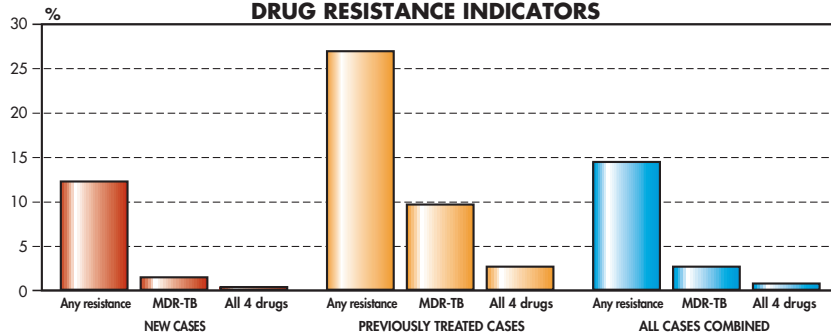
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 6 311 000 • World Bank Income Category: High-income • Tuberculosis case notification: 105.0/100 000 • Tuberculosis estimated incidence: 103.0/100 000 • Notified incidence of new sputum smear positive TB: 2 118 cases 33.6/100 000 • Treatment success: 89% • Previously treated cases: 4.0% of all patients registered • MTB/HIV estimated co-infection rate: 18.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: 1979 • Year of Rifampicin Introduction: 1970 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 96% • Use of Directly Observed Therapy: during 1st 2 months: Yes (90% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (5% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------------------|
| Target Area: Province | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Absolute concentration |
| Sampling Fraction: 100% | Laboratory accuracy: 94.2% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



* Special administrative region

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	4 424	100	783	100	5 207	100
SUSCEPTIBLE TO ALL 4 DRUGS	3 883	87.8	572	73.1	4 455	85.6
ANY RESISTANCE	541	12.2	211	26.9	752	14.4
- Isoniazid (INH)	270	6.1	136	17.4	406	7.8
- Rifampicin (RMP)	70	1.6	91	11.6	161	3.1
- Ethambutol (EMB)	70	1.6	47	6.0	117	2.2
- Streptomycin (SM)	364	8.2	128	16.3	492	9.4
MONORESISTANCE	374	8.5	98	12.5	472	9.1
- Isoniazid (INH)	114	2.6	30	3.8	144	2.8
- Rifampicin (RMP)	2	.0	10	1.3	12	.2
- Ethambutol (EMB)	23	.5	5	.6	28	.5
- Streptomycin (SM)	235	5.3	53	6.8	288	5.5
MULTIDRUG RESISTANCE	62	1.4	75	9.6	137	2.6
- INH + RMP	15	.3	19	2.4	34	.7
- INH + RMP + EMB	12	.3	14	1.8	26	.5
- INH + RMP + SM	21	.5	22	2.8	43	.8
- INH + RMP + EMB + SM	14	.3	20	2.6	34	.7
OTHER PATTERNS	105	2.4	38	4.9	143	2.7
- INH + EMB	6	.1	3	.4	9	.2
- INH + SM	83	1.9	26	3.3	109	2.1
- INH + EMB + SM	5	.1	2	.3	7	.1
- RMP + EMB	5	.1	2	.3	7	.1
- RMP + SM	1	.0	4	.5	5	.1
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	5	.1	1	.1	6	.1
NUMBER OF DRUGS RESISTANT TO:						
- 0	3 883	87.8	572	73.1	4 455	85.6
- 1	374	8.5	98	12.5	472	9.1
- 2	115	2.6	55	7.0	170	3.3
- 3	38	.9	38	4.9	76	1.5
- 4	14	.3	20	2.6	34	.7

CHINA (Shandong Province)

YEAR OF SURVEY: **1997**

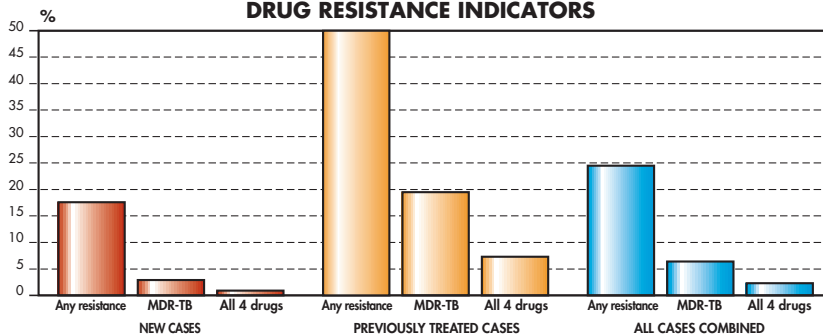
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 88 100 000 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 28.7/100 000 • Tuberculosis estimated incidence: 90.0/100 000 • Notified incidence of new sputum smear positive TB: 13 064 cases 14.8/100 000 • Treatment success: 94% • Previously treated cases: 21.3% of all patients registered • MTB/HIV estimated co-infection rate: 12.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1980 • Year of Rifampicin Introduction: 1981 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------------------|-------------------------------------------------------|
| Target Area: Province | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 5% | Laboratory accuracy: 95.8% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	1 009	100	220	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	831	82.4	110	50.0		75.5
ANY RESISTANCE	178	17.6	110	50.0		24.5
- Isoniazid (INH)	114	11.3	89	40.5		17.5
- Rifampicin (RMP)	38	3.8	51	23.2		7.9
- Ethambutol (EMB)	17	1.7	23	10.5		3.6
- Streptomycin (SM)	123	12.2	76	34.5		17.0
MONORESISTANCE	99	9.8	35	15.9		11.1
- Isoniazid (INH)	38	3.8	21	9.5		5.0
- Rifampicin (RMP)	6	.6	1	.5		.6
- Ethambutol (EMB)	1	.1	0	.0		.1
- Streptomycin (SM)	54	5.4	13	5.9		5.5
MULTIDRUG RESISTANCE	29	2.9	43	19.5		6.4
- INH + RMP	4	.4	7	3.2		1.0
- INH + RMP + EMB	2	.2	4	1.8		.5
- INH + RMP + SM	14	1.4	16	7.3		2.6
- INH + RMP + EMB + SM	9	.9	16	7.3		2.3
OTHER PATTERNS	50	5.0	32	14.5		4.6
- INH + EMB	3	.3	1	.5		.3
- INH + SM	43	4.3	22	10.0		5.5
- INH + EMB + SM	1	.1	2	.9		.3
- RMP + EMB	1	.1	0	.0		.1
- RMP + SM	2	.2	7	3.2		.8
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	831	82.4	110	50.0		75.5
- 1	99	9.8	35	15.9		11.1
- 2	53	5.3	37	16.8		7.7
- 3	17	1.7	22	10.0		3.5
- 4	9	.9	16	7.3		2.3

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

CHINA (Zhejiang Province)

YEAR OF SURVEY: **1998-99**

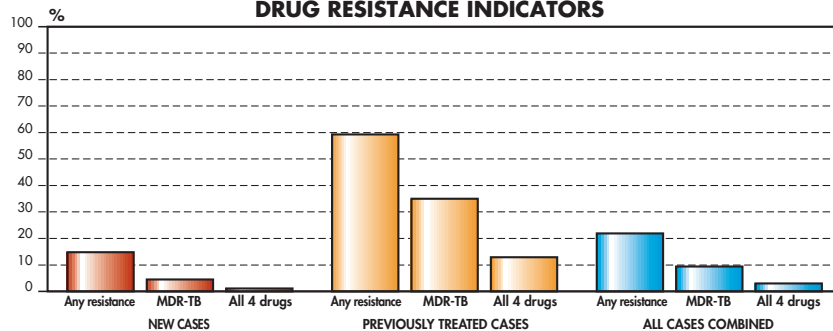
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 44 223 000 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 42.5/100 000 • Tuberculosis estimated incidence: 43.0/100 000 • Notified incidence of new sputum smear positive TB: 5 428 cases 12.3/100 000 • Treatment success: 90% • Previously treated cases: 16.0% of all patients registered • MTB/HIV estimated co-infection rate: 12.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 2 • Year N.T.P. was established: 1994 • Year of Rifampicin Introduction: • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (60% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: Province	Culture Media: Löwenstein-Jensen
Sampling Method: Proportionate cluster	Drug Susceptibility Testing Method: Proportion
Sampling Fraction: 4%	Laboratory accuracy: 95.0%
Study duration: 12 months	Rifampicin specificity: 100.0%

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	802	100	140	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	683	85.2	57	40.7		78.1
ANY RESISTANCE	119	14.8	83	59.3		21.9
- Isoniazid (INH)	71	8.9	62	44.3		14.5
- Rifampicin (RMP)	52	6.5	63	45.0		12.6
- Ethambutol (EMB)	12	1.5	25	17.9		4.1
- Streptomycin (SM)	72	9.0	39	27.9		12.0
MONORESISTANCE	67	8.4	26	18.6		10.0
- Isoniazid (INH)	22	2.7	10	7.1		3.4
- Rifampicin (RMP)	13	1.6	9	6.4		2.4
- Ethambutol (EMB)	2	.2	1	.7		.3
- Streptomycin (SM)	30	3.7	6	4.3		3.8
MULTIDRUG RESISTANCE	36	4.5	49	35.0		9.4
- INH + RMP	10	1.2	20	14.3		3.3
- INH + RMP + EMB	0	.0	1	.7		.1
- INH + RMP + SM	17	2.1	10	7.1		2.9
- INH + RMP + EMB + SM	9	1.1	18	12.9		3.0
OTHER PATTERNS	16	2.0	8	5.7		1.8
- INH + EMB	0	.0	1	.7		.1
- INH + SM	12	1.5	0	.0		1.3
- INH + EMB + SM	1	.1	2	1.4		.3
- RMP + EMB	0	.0	2	1.4		.2
- RMP + SM	3	.4	3	2.1		.7
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	683	85.2	57	40.7		78.1
- 1	67	8.4	26	18.6		10.0
- 2	25	3.1	26	18.6		5.6
- 3	18	2.2	13	9.3		3.4
- 4	9	1.1	18	12.9		3.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

COLOMBIA

YEAR OF SURVEY: **1999***

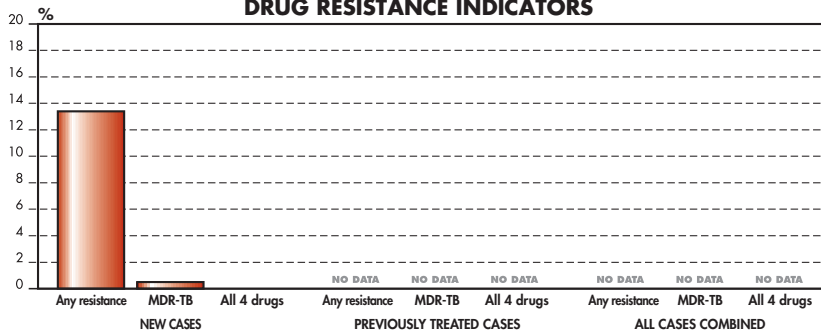
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
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| <ul style="list-style-type: none"> • Population: 40 772 994 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 21.1/100 000 • Tuberculosis estimated incidence: 55.0/100 000 • Notified incidence of new sputum smear positive TB: 6 881 cases 16.9/100 000 • Treatment success: Not available • Previously treated cases: 20.0% of all patients registered • MTB/HIV estimated co-infection rate: 47.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 2 • Year N.T.P. was established: 1960 • Year of Rifampicin Introduction: 1981 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 90% • Use of Directly Observed Therapy: during 1st 2 months: Yes (50% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat.
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Target Area: Country-wide</p> <p>Sampling Method: Cluster</p> <p>Sampling Fraction: 10%</p> <p>Study duration: 12 months</p> | <p>Culture Media: Ogawa</p> <p>Drug Susceptibility Testing Method: Proportion</p> <p>Laboratory accuracy: 97.0%</p> <p>Rifampicin specificity: 100.0%</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

DRUG RESISTANCE INDICATORS



* Preliminary

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	201	100				
SUSCEPTIBLE TO ALL 4 DRUGS	174	86.6				
ANY RESISTANCE	27	13.4				
- Isoniazid (INH)	17	8.5				
- Rifampicin (RMP)	1	.5				
- Ethambutol (EMB)	1	.5				
- Streptomycin (SM)	20	10.0				
MONORESISTANCE	16	8.0				
- Isoniazid (INH)	6	3.0				
- Rifampicin (RMP)	0	.0				
- Ethambutol (EMB)	0	.0				
- Streptomycin (SM)	10	5.0				
MULTIDRUG RESISTANCE	1	.5				
- INH + RMP	1	.5				
- INH + RMP + EMB	0	.0				
- INH + RMP + SM	0	.0				
- INH + RMP + EMB + SM	0	.0				
OTHER PATTERNS	10	5.0				
- INH + EMB	0	.0				
- INH + SM	9	4.5				
- INH + EMB + SM	1	.5				
- RMP + EMB	0	.0				
- RMP + SM	0	.0				
- RMP + EMB + SM	0	.0				
- EMB + SM	0	.0				
NUMBER OF DRUGS RESISTANT TO:						
- 0	174	86.6				
- 1	16	8.0				
- 2	10	5.0				
- 3	1	.5				
- 4	0	.0				

CUBA

YEAR OF SURVEY: 1998

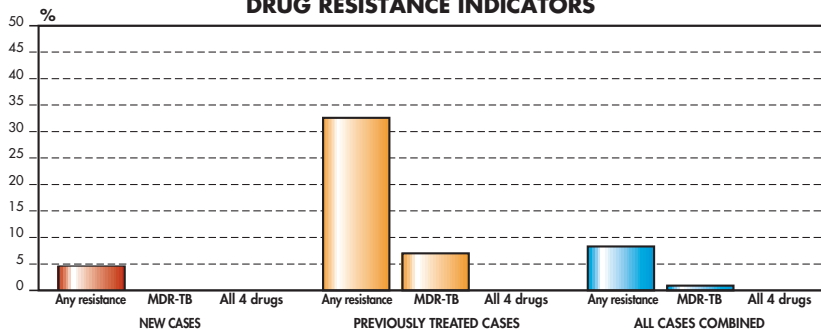
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **11 035 992**
- World Bank Income Category: **Lower-middle-income**
- Tuberculosis case notification: **11.1/100 000**
- Tuberculosis estimated incidence: **18.0/100 000**
- Notified incidence of new sputum smear positive TB: **744 cases 6.7/100 000**
- Treatment success: **91%**
- Previously treated cases: **4.9% of all patients registered**
- MTB/HIV estimated co-infection rate: **1.0/100 000**
- HIV-positive TB cases: **0%**
- WHO Control Category: **4**
- Year N.T.P. was established: **1963**
- Year of Rifampicin Introduction: **1982**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **100%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (100% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **No (0% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 33% | Laboratory accuracy: 98.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	284	100	43	100	327	100
SUSCEPTIBLE TO ALL 4 DRUGS	271	95.4	29	67.4	300	91.7
ANY RESISTANCE	13	4.6	14	32.6	27	8.3
- Isoniazid (INH)	2	.7	8	18.6	10	3.1
- Rifampicin (RMP)	0	.0	3	7.0	3	.9
- Ethambutol (EMB)	1	.4	0	.0	1	.3
- Streptomycin (SM)	11	3.9	9	20.9	20	6.1
MONORESISTANCE	12	4.2	10	23.3	22	6.7
- Isoniazid (INH)	2	.7	4	9.3	6	1.8
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	10	3.5	6	14.0	16	4.9
MULTIDRUG RESISTANCE	0	.0	3	7.0	3	.9
- INH + RMP	0	.0	1	2.3	1	.3
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	2	4.7	2	.6
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	1	.4	1	2.3	2	.6
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	0	.0	1	2.3	1	.3
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	1	.4	0	.0	1	.3
NUMBER OF DRUGS RESISTANT TO:						
- 0	271	95.4	29	67.4	300	91.7
- 1	12	4.2	10	23.3	22	6.7
- 2	1	.4	2	4.7	3	.9
- 3	0	.0	2	4.7	2	.6
- 4	0	.0	0	.0	0	.0

CZECH REPUBLIC

YEAR OF SURVEY: 1999

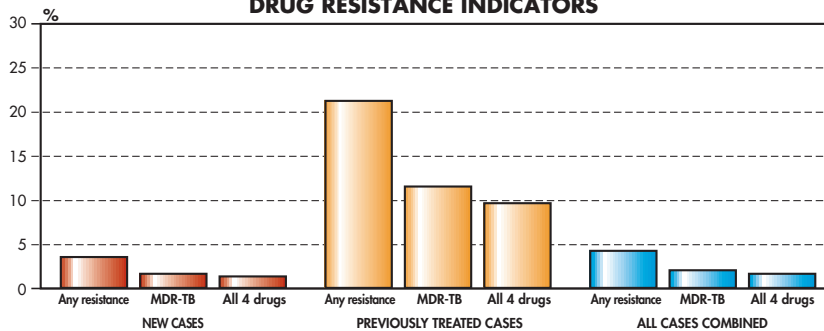
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 10 294 943 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 17.4/100 000 • Tuberculosis estimated incidence: 20/100 000 • Notified incidence of new sputum smear positive TB: 545 cases 5.3/100 000 • Treatment success: 90% • Previously treated cases: 3.5% of all patients registered • MTB/HIV estimated co-infection rate: 3.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1982 • Year of Rifampicin Introduction: 1980 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 80% • Use of Directly Observed Therapy: during 1st 2 months: Yes (90% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & others |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 98.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	311	100	52	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	300	96.5	41	78.8		95.8
ANY RESISTANCE	11	3.5	11	21.2		4.2
- Isoniazid (INH)	10	3.2	11	21.2		3.8
- Rifampicin (RMP)	6	1.9	6	11.5		2.3
- Ethambutol (EMB)	4	1.3	6	11.5		1.6
- Streptomycin (SM)	7	2.3	5	9.6		2.5
MONORESISTANCE	4	1.3	4	7.7		1.5
- Isoniazid (INH)	3	1.0	4	7.7		1.2
- Rifampicin (RMP)	1	.3	0	.0		.3
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	0	.0	0	.0		.0
MULTIDRUG RESISTANCE	5	1.6	6	11.5		2.0
- INH + RMP	0	.0	1	1.9		.1
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	1	.3	0	.0		.3
- INH + RMP + EMB + SM	4	1.3	5	9.6		1.6
OTHER PATTERNS	2	.6	1	1.9		.6
- INH + EMB	0	.0	1	1.9		.1
- INH + SM	2	.6	0	.0		.6
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	300	96.5	41	78.8		95.8
- 1	4	1.3	4	7.7		1.5
- 2	2	.6	2	3.8		.8
- 3	1	.3	0	.0		.3
- 4	4	1.3	5	9.6		1.6

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

DENMARK

YEAR OF SURVEY: 1998

PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: 5 294 860
- World Bank Income Category: **High-income**
- Tuberculosis case notification: 10.1/100 000
- Tuberculosis estimated incidence: 11.0/100 000
- Notified incidence of new sputum smear positive TB: 139 cases
2.6/100 000
- Treatment success: 90%
- Previously treated cases: 8.3% of all patients registered
- MTB/HIV estimated co-infection rate: 8.0/100 000
- HIV-positive TB cases: 1.0%
- WHO Control Category: 1
- Year N.T.P. was established:
- Year of Rifampicin Introduction: 1969
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: 99%
- Use of Directly Observed Therapy: during 1st 2 months: **No (0% of patients)**
During continuation phase: **No**
- Use of Fixed Dose Combination: **No (0% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide (Greenland and Faroe Island excluded)**

Sampling Method: **All cases**

Sampling Fraction: **100%**

Study duration: **12 months**

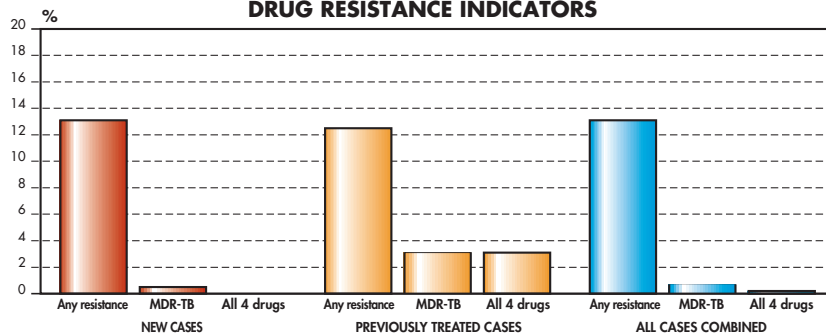
Culture Media: **Löwenstein-Jensen & Bactec**

Drug Susceptibility Testing Method: **Bactec**

Laboratory accuracy: **98.0%**

Rifampicin specificity: **100.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	412	100	32	100	444	100
SUSCEPTIBLE TO ALL 4 DRUGS	358	86.9	28	87.5	386	86.9
ANY RESISTANCE	54	13.1	4	12.5	58	13.1
- Isoniazid (INH)	25	6.1	4	12.5	29	6.5
- Rifampicin (RMP)	2	.5	1	3.1	3	.7
- Ethambutol (EMB)	0	.0	1	3.1	1	.2
- Streptomycin (SM)	47	11.4	4	12.5	51	11.5
MONORESISTANCE	36	8.7	0	.0	36	8.1
- Isoniazid (INH)	7	1.7	0	.0	7	1.6
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	29	7.0	0	.0	29	6.5
MULTIDRUG RESISTANCE	2	.5	1	3.1	3	.7
- INH + RMP	0	.0	0	.0	0	.0
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	2	.5	0	.0	2	.5
- INH + RMP + EMB + SM	0	.0	1	3.1	1	.2
OTHER PATTERNS	16	3.9	3	9.4	19	4.3
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	16	3.9	3	9.4	19	4.3
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	358	86.9	28	87.5	386	86.9
- 1	36	8.7	0	.0	36	8.1
- 2	16	3.9	3	9.4	19	4.3
- 3	2	.5	0	.0	2	.5
- 4	0	.0	1	3.1	1	.2

ENGLAND & WALES

YEAR OF SURVEY: **1997**

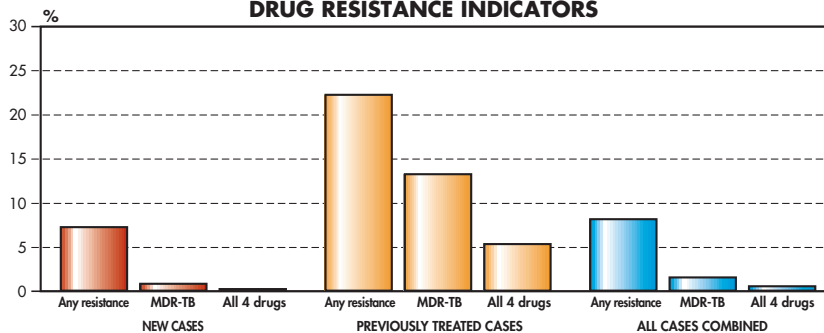
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 52 211 175 • World Bank Income Category: High-income • Tuberculosis case notification: 11.2/100 000 • Tuberculosis estimated incidence: 11.3/100 000 • Notified incidence of new sputum smear positive TB: Not available • Treatment success: Not available • Previously treated cases: Not available • MTB/HIV estimated co-infection rate: 6.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1969 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (% of patients not available) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Resistance ratio |
| Sampling Fraction: 100% | Laboratory accuracy: 96.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE*						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	3 053	100	189	100	3 242	100
SUSCEPTIBLE TO ALL 4 DRUGS	2 834	92.8	147	77.8	2 981	91.9
ANY RESISTANCE	219	7.2	42	22.2	261	8.1
- Isoniazid (INH)	153	5.0	39	20.6	192	5.9
- Rifampicin (RMP)	26	.9	25	13.2	51	1.6
- Ethambutol (EMB)	9	.3	15	7.9	24	.7
- Streptomycin (SM)	115	6.6	19	16.6	134	7.2
MONORESISTANCE	153	5.0	14	7.4	167	5.2
- Isoniazid (INH)	88	2.9	11	5.8	99	3.1
- Rifampicin (RMP)	2	.1	0	.0	2	.1
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	63	3.6	3	2.6	66	3.5
MULTIDRUG RESISTANCE	24	.8	25	13.2	49	1.5
- INH + RMP	12	.4	8	4.2	20	.6
- INH + RMP + EMB	1	.0	3	1.6	4	.1
- INH + RMP + SM	6	.3	4	3.5	10	.5
- INH + RMP + EMB + SM	5	.3	10	8.7	15	.8
OTHER PATTERNS	42	1.4	3	1.6	45	1.4
- INH + EMB	1	.0	1	.5	2	.1
- INH + SM	39	2.2	1	.9	40	2.1
- INH + EMB + SM	1	.1	1	.9	2	.1
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	1	.1	0	.0	1	.1
NUMBER OF DRUGS RESISTANT TO:						
- 0	2 834	92.8	147	77.8	2 981	91.9
- 1	153	5.0	14	7.4	167	5.2
- 2	53	1.7	10	5.3	63	1.9
- 3	8	.3	8	4.2	16	.5
- 4	5	.3	10	5.3	15	.5

* 1 303 patients were not tested for SM; thus, %s were calculated using n=3 053 for new cases, except where SM resistance (n=1 750). Similar for retreatments

ESTONIA

YEAR OF SURVEY: **1998**

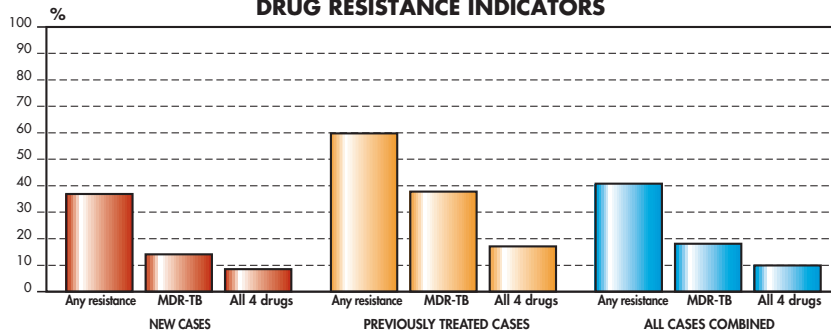
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 1 453 884 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 56.4/100 000 • Tuberculosis estimated incidence: 50.0/100 000 • Notified incidence of new sputum smear positive TB: 302 cases 20.8/100 000 • Treatment success: 62% • Previously treated cases: 17.0% of all patients registered • MTB/HIV estimated co-infection rate: 1.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: 1997 • Year of Rifampicin Introduction: 1974 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: % not available • Use of Directly Observed Therapy: during 1st 2 months: Yes (13% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (30% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|----------------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion + Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 90.4% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	377	100	82	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	238	63.1	33	40.2		59.2
ANY RESISTANCE	139	36.9	49	59.8		40.8
- Isoniazid (INH)	98	26.0	45	54.9		30.9
- Rifampicin (RMP)	54	14.3	32	39.0		18.5
- Ethambutol (EMB)	42	11.1	15	18.3		12.4
- Streptomycin (SM)	122	32.4	41	50.0		35.4
MONORESISTANCE	51	13.5	8	9.8		12.9
- Isoniazid (INH)	10	2.7	4	4.9		3.0
- Rifampicin (RMP)	1	.3	1	1.2		.4
- Ethambutol (EMB)	1	.3	0	.0		.2
- Streptomycin (SM)	39	10.3	3	3.7		9.2
MULTIDRUG RESISTANCE	53	14.1	31	37.8		18.1
- INH + RMP	1	.3	2	2.4		.6
- INH + RMP + EMB	2	.5	1	1.2		.6
- INH + RMP + SM	18	4.8	14	17.1		6.9
- INH + RMP + EMB + SM	32	8.5	14	17.1		9.9
OTHER PATTERNS	35	9.3	10	12.2		8.8
- INH + EMB	2	.5	0	.0		.4
- INH + SM	28	7.4	10	12.2		8.2
- INH + EMB + SM	5	1.3	0	.0		1.1
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	238	63.1	33	40.2		59.2
- 1	51	13.5	8	9.8		12.9
- 2	31	8.2	12	14.6		9.3
- 3	25	6.6	15	18.3		8.6
- 4	32	8.5	14	17.1		9.9

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

FINLAND

YEAR OF SURVEY: **1997**

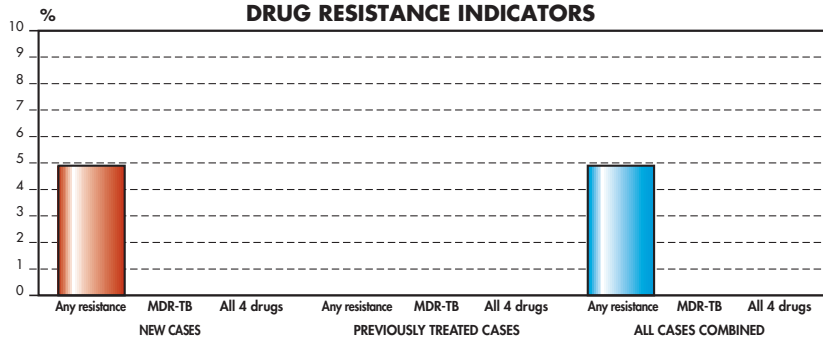
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 5 142 000 • World Bank Income Category: High-income • Tuberculosis case notification: 11.1/100 000 • Tuberculosis estimated incidence: 13.0/100 000 • Notified incidence of new sputum smear positive TB: 186 cases 3.6/100 000 • Treatment success: Not available • Previously treated cases: .5% of all patients registered • MTB/HIV estimated co-infection rate: 1.0/100 000 • HIV-positive TB cases: 0.5% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: 1953 • Year of Rifampicin Introduction: 1972 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 95.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	410	100	2	100	412	100
SUSCEPTIBLE TO ALL 4 DRUGS	392	95.6	2	100.0	394	95.6
ANY RESISTANCE	20	4.9	0	.0	20	4.9
- Isoniazid (INH)	19	4.6	0	.0	19	4.6
- Rifampicin (RMP)	2	.5	0	.0	2	.5
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	3	.7	0	.0	3	.7
MONORESISTANCE	18	4.4	0	.0	18	4.4
- Isoniazid (INH)	17	4.1	0	.0	17	4.1
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	1	.2	0	.0	1	.2
MULTIDRUG RESISTANCE	0	.0	0	.0	0	.0
- INH + RMP	0	.0	0	.0	0	.0
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	2	.5	0	.0	2	.5
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	2	.5	0	.0	2	.5
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	392	95.6	2	100.0	394	95.6
- 1	18	4.4	0	.0	18	4.4
- 2	2	.5	0	.0	2	.5
- 3	0	.0	0	.0	0	.0
- 4	0	.0	0	.0	0	.0

FRANCE

YEAR OF SURVEY: **1997**

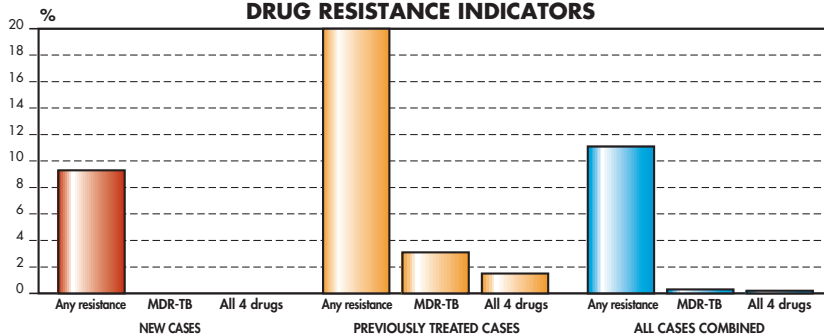
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 56 000 000 • World Bank Income Category: High-income • Tuberculosis case notification: 11.5/100 000 • Tuberculosis estimated incidence: 19/100 000 • Notified incidence of new sputum smear positive TB: 2 430 cases 4.3/100 000 • Treatment success: Not available • Previously treated cases: 10.0% of all patients registered • MTB/HIV estimated co-infection rate: 2.0/100 000 • HIV-positive TB cases: 13.0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1967 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (50% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|------------------------------------|-------------------------------------------------------|
| Target Area: Sentinel sites | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 100.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	787	100	65	100	973	100
SUSCEPTIBLE TO ALL 4 DRUGS	714	90.7	52	80.0	865	88.9
ANY RESISTANCE	73	9.3	13	20.0	108	11.1
- Isoniazid (INH)	28	3.6	5	7.7	39	4.0
- Rifampicin (RMP)	2	.3	4	6.2	8	.8
- Ethambutol (EMB)	1	.1	2	3.1	4	.4
- Streptomycin (SM)	52	6.6	8	12.3	79	8.1
MONORESISTANCE	63	8.0	9	13.8	91	9.3
- Isoniazid (INH)	18	2.3	2	3.1	23	2.4
- Rifampicin (RMP)	2	.3	1	1.5	3	.3
- Ethambutol (EMB)	1	.1	0	.0	1	.1
- Streptomycin (SM)	42	5.3	6	9.2	64	6.6
MULTIDRUG RESISTANCE	0	.0	2	3.1	4	.4
- INH + RMP	0	.0	1	1.5	1	.1
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	1	.1
- INH + RMP + EMB + SM	0	.0	1	1.5	2	.2
OTHER PATTERNS	10	1.3	2	3.1	13	1.3
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	10	1.3	1	1.5	12	1.2
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	1	1.5	1	.1
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	714	90.7	52	80.0	865	88.9
- 1	63	8.0	9	13.8	91	9.3
- 2	10	1.3	3	4.6	14	1.4
- 3	0	.0	0	.0	1	.1
- 4	0	.0	1	1.5	2	.2

* 121 TB cases could not be classified according to the history of treatment. These cases are included in the combined prevalence column.

GERMANY

YEAR OF SURVEY: **1998**

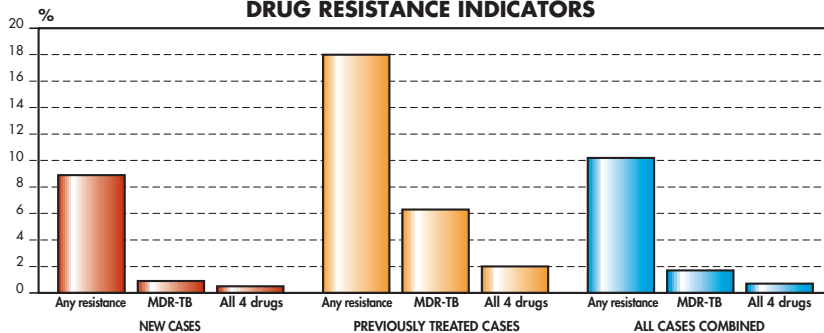
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
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| <ul style="list-style-type: none"> • Population: 82 200 000 • World Bank Income Category: High-income • Tuberculosis case notification: 12.7/100 000 • Tuberculosis estimated incidence: 15.0/100 000 • Notified incidence of new sputum smear positive TB: 3 124 cases 3.8/100 000 • Treatment success: Not available • Previously treated cases: Not available • MTB/HIV estimated co-infection rate: 6.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1969 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (20% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|------------------------------------|----------------------------------------------------------------|
| Target Area: Sentinel sites | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: Random | Drug Susceptibility Testing Method: Proportion + Bactec |
| Sampling Fraction: 66% | Laboratory accuracy: 98.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	1 455	100	256	100	1711	100
SUSCEPTIBLE TO ALL 4 DRUGS	1 326	91.1	210	82.0	1536	89.8
ANY RESISTANCE	129	8.9	46	18.0	175	10.2
- Isoniazid (INH)	83	5.7	41	16.0	124	7.2
- Rifampicin (RMP)	21	1.4	17	6.6	38	2.2
- Ethambutol (EMB)	17	1.2	10	3.9	27	1.6
- Streptomycin (SM)	69	4.7	18	7.0	87	5.1
MONORESISTANCE	89	6.1	24	9.4	113	6.6
- Isoniazid (INH)	47	3.2	19	7.4	66	3.9
- Rifampicin (RMP)	4	.3	1	.4	5	.3
- Ethambutol (EMB)	3	.2	1	.4	4	.2
- Streptomycin (SM)	35	2.4	3	1.2	38	2.2
MULTIDRUG RESISTANCE	13	.9	16	6.3	29	1.7
- INH + RMP	2	.1	5	2.0	7	.4
- INH + RMP + EMB	1	.1	2	.8	3	.2
- INH + RMP + SM	3	.2	4	1.6	7	.4
- INH + RMP + EMB + SM	7	.5	5	2.0	12	.7
OTHER PATTERNS	27	1.9	6	2.3	33	1.9
- INH + EMB	3	.2	0	.0	3	.2
- INH + SM	18	1.2	4	1.6	22	1.3
- INH + EMB + SM	2	.1	2	.8	4	.2
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	3	.2	0	.0	3	.2
- RMP + EMB + SM	1	.1	0	.0	1	.1
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	1 326	91.1	210	82.0	1 536	89.8
- 1	89	6.1	24	9.4	113	6.6
- 2	26	1.8	9	3.5	35	2.0
- 3	7	.5	8	3.1	15	.9
- 4	7	.5	5	2.0	12	.7

GUINEA

YEAR OF SURVEY: **1998**

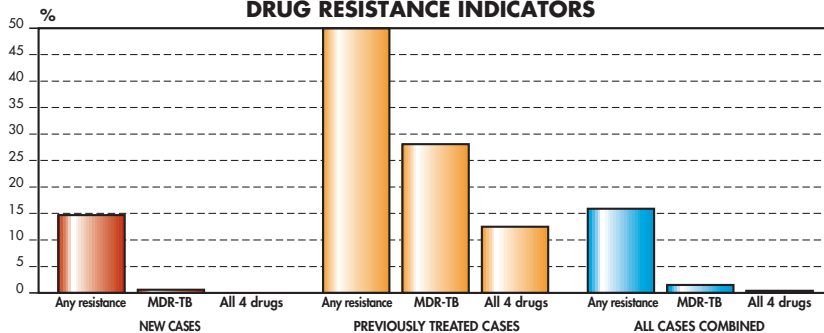
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 7 164 893 • World Bank Income Category: Low-income • Tuberculosis case notification: 56.8/100 000 • Tuberculosis estimated incidence: 171.0/100 000 • Notified incidence of new sputum smear positive TB: 3 362 cases 46.9/100 000 • Treatment success: 77% • Previously treated cases: 3.4% of all patients registered • MTB/HIV estimated co-infection rate: 340.0/100 000 • HIV-positive TB cases: 10.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1990 • Year of Rifampicin Introduction: 1986 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|------------------------------------|-------------------------------------------------------|
| Target Area: Sentinel sites | Culture Media: Löwenstein-Jensen |
| Sampling Method: Random | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 15% | Laboratory accuracy: 95.2% |
| Study duration: 10 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	539	100	32	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	460	85.3	16	50.0		84.1
ANY RESISTANCE	79	14.7	16	50.0		15.9
- Isoniazid (INH)	50	9.3	16	50.0		10.7
- Rifampicin (RMP)	4	.7	9	28.1		1.7
- Ethambutol (EMB)	3	.6	6	18.8		1.2
- Streptomycin (SM)	51	9.5	11	34.4		10.3
MONORESISTANCE	53	9.8	3	9.4		9.8
- Isoniazid (INH)	24	4.5	3	9.4		4.6
- Rifampicin (RMP)	1	.2	0	.0		.2
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	28	5.2	0	.0		5.0
MULTIDRUG RESISTANCE	3	.6	9	28.1		1.5
- INH + RMP	1	.2	1	3.1		.3
- INH + RMP + EMB	0	.0	1	3.1		.1
- INH + RMP + SM	2	.4	3	9.4		.7
- INH + RMP + EMB + SM	0	.0	4	12.5		.4
OTHER PATTERNS	23	4.3	4	12.5		4.7
- INH + EMB	2	.4	0	.0		.4
- INH + SM	20	3.7	3	9.4		3.9
- INH + EMB + SM	1	.2	1	3.1		.3
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	460	85.3	16	50.0		84.1
- 1	53	9.8	3	9.4		9.8
- 2	23	4.3	4	12.5		4.5
- 3	3	.6	5	15.6		1.1
- 4	0	.0	4	12.5		.4

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

INDIA (Tamil Nadu State)

YEAR OF SURVEY: **1997**

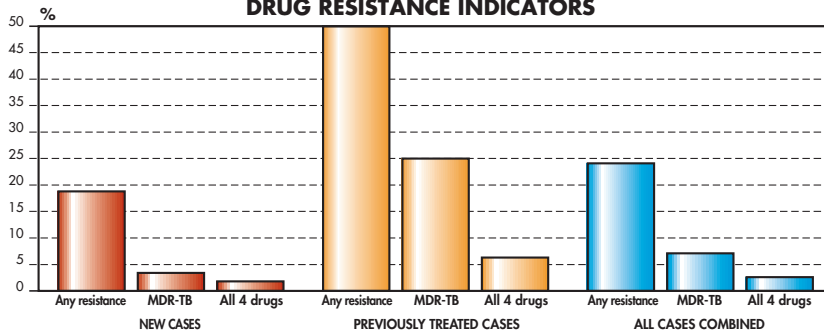
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 61 753 400 • World Bank Income Category: Low-income • Tuberculosis case notification: 200.0/100 000 • Tuberculosis estimated incidence: 400.0/100 000 • Notified incidence of new sputum smear positive TB: 26 532 cases 43.0/100 000 • Treatment success: 45% • Previously treated cases: 17.2% of all patients registered • MTB/HIV estimated co-infection rate: Not available • HIV-positive TB cases: 4.4% | <ul style="list-style-type: none"> • WHO Control Category: 2 • Year N.T.P. was established: 1962 • Year of Rifampicin Introduction: 1983 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 90% • Use of Directly Observed Therapy: during 1st 2 months: Yes (% of patients not available)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------------------|-------------------------------------------------------------|
| Target Area: State | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Susceptibility Testing Method: Resistance ratio |
| Sampling Fraction: 100% | Laboratory accuracy: 98.7% |
| Study duration: 2 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	384	100	16	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	312	81.3	8	50.0		75.9
ANY RESISTANCE	72	18.8	8	50.0		24.1
- Isoniazid (INH)	59	15.4	8	50.0		21.3
- Rifampicin (RMP)	17	4.4	4	25.0		8.0
- Ethambutol (EMB)	27	7.0	5	31.3		11.2
- Streptomycin (SM)	26	6.8	2	12.5		7.8
MONORESISTANCE	40	10.4	2	12.5		10.8
- Isoniazid (INH)	29	7.6	2	12.5		8.4
- Rifampicin (RMP)	2	.5	0	.0		.4
- Ethambutol (EMB)	2	.5	0	.0		.4
- Streptomycin (SM)	7	1.8	0	.0		1.5
MULTIDRUG RESISTANCE	13	3.4	4	25.0		7.1
- INH + RMP	2	.5	1	6.3		1.5
- INH + RMP + EMB	4	1.0	2	12.5		3.0
- INH + RMP + SM	0	.0	0	.0		.0
- INH + RMP + EMB + SM	7	1.8	1	6.3		2.6
OTHER PATTERNS	19	4.9	1	6.3		4.4
- INH + EMB	7	1.8	1	6.3		2.6
- INH + SM	5	1.3	0	.0		1.1
- INH + EMB + SM	5	1.3	1	6.3		2.2
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	2	.5	0	.0		.4
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	312	81.3	8	50.0		75.9
- 1	40	10.4	2	12.5		10.8
- 2	14	3.6	2	12.5		5.2
- 3	11	2.9	3	18.8		5.6
- 4	7	1.8	1	6.3		2.6

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

ISLAMIC REPUBLIC OF IRAN

YEAR OF SURVEY: **1997-98**

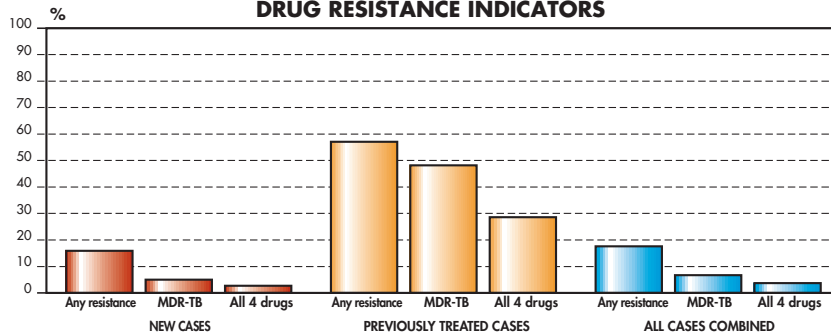
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 60 776 152 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 17.7/100 000 • Tuberculosis estimated incidence: 55.0/100 000 • Notified incidence of new sputum smear positive TB: 5 253 cases 8.6/100 000 • Treatment success: 87% • Previously treated cases: 4.0% of all patients registered • MTB/HIV estimated co-infection rate: 0.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 3 • Year N.T.P. was established: 1989 • Year of Rifampicin Introduction: 1961 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (49% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|----------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Random | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 10% | Laboratory accuracy: 94.0% |
| Study duration: 18 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	666	100	56	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	560	84.1	24	42.9		82.4
ANY RESISTANCE	106	15.9	32	57.1		17.6
- Isoniazid (INH)	65	9.8	28	50.0		11.4
- Rifampicin (RMP)	41	6.2	28	50.0		7.9
- Ethambutol (EMB)	31	4.7	18	32.1		5.8
- Streptomycin (SM)	65	9.8	22	39.3		10.9
MONORESISTANCE	54	8.1	4	7.1		8.1
- Isoniazid (INH)	18	2.7	1	1.8		2.7
- Rifampicin (RMP)	6	.9	0	.0		.9
- Ethambutol (EMB)	2	.3	0	.0		.3
- Streptomycin (SM)	28	4.2	3	5.4		4.3
MULTIDRUG RESISTANCE	33	5.0	27	48.2		6.7
- INH + RMP	8	1.2	7	12.5		1.7
- INH + RMP + EMB	1	.2	2	3.6		.3
- INH + RMP + SM	6	.9	2	3.6		1.0
- INH + RMP + EMB + SM	18	2.7	16	28.6		3.7
OTHER PATTERNS	19	2.9	1	1.8		2.8
- INH + EMB	5	.8	0	.0		.7
- INH + SM	8	1.2	0	.0		1.2
- INH + EMB + SM	1	.2	0	.0		.1
- RMP + EMB	1	.2	0	.0		.1
- RMP + SM	1	.2	1	1.8		.2
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	3	.5	0	.0		.4
NUMBER OF DRUGS RESISTANT TO:						
- 0	560	84.1	24	42.9		82.4
- 1	54	8.1	4	7.1		8.1
- 2	26	3.9	8	14.3		4.3
- 3	8	1.2	4	7.1		1.4
- 4	18	2.7	16	28.6		3.7

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

ISRAEL

YEAR OF SURVEY: 1998

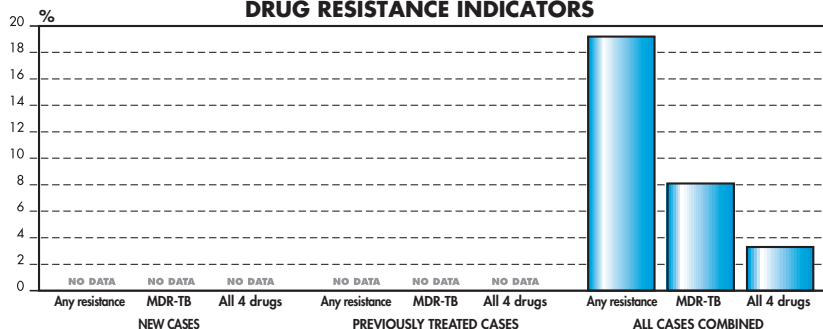
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **5 900 000**
- World Bank Income Category: **High-income**
- Tuberculosis case notification: **10.8/100 000**
- Tuberculosis estimated incidence: **8.0/100 000**
- Notified incidence of new sputum smear positive TB: **261 cases 4.4/100 000**
- Treatment success: **91%**
- Previously treated cases: **3.1% of all patients registered**
- MTB/HIV estimated co-infection rate: **4.0/100 000**
- HIV-positive TB cases: **1%**
- WHO Control Category: **4**
- Year N.T.P. was established: **1997**
- Year of Rifampicin Introduction: **Not available**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **100%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (92% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **No (0% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Resistance ratio |
| Sampling Fraction: 100% | Laboratory accuracy: 95.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested					307	100
SUSCEPTIBLE TO ALL 4 DRUGS					248	80.8
ANY RESISTANCE					59	19.2
- Isoniazid (INH)					48	15.6
- Rifampicin (RMP)					26	8.5
- Ethambutol (EMB)					19	6.2
- Streptomycin (SM)					49	16.0
MONORESISTANCE					16	5.2
- Isoniazid (INH)					5	1.6
- Rifampicin (RMP)					1	.3
- Ethambutol (EMB)					0	.0
- Streptomycin (SM)					10	3.3
MULTIDRUG RESISTANCE					25	8.1
- INH + RMP					4	1.3
- INH + RMP + EMB					0	.0
- INH + RMP + SM					11	3.6
- INH + RMP + EMB + SM					10	3.3
OTHER PATTERNS					18	5.9
- INH + EMB					0	.0
- INH + SM					9	2.9
- INH + EMB + SM					9	2.9
- RMP + EMB					0	.0
- RMP + SM					0	.0
- RMP + EMB + SM					0	.0
- EMB + SM					0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0					248	80.8
- 1					16	5.2
- 2					13	4.2
- 3					20	6.5
- 4					10	3.3

ITALY

YEAR OF SURVEY: **1998-99***

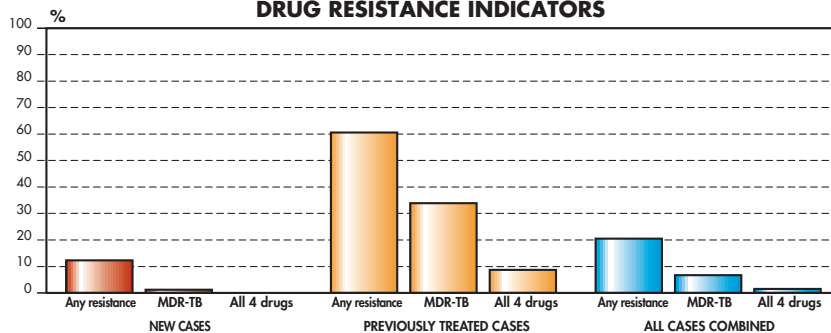
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 57 241 000 • World Bank Income Category: High-income • Tuberculosis case notification: 8.5/100 000 • Tuberculosis estimated incidence: 10.0/100 000 • Notified incidence of new sputum smear positive TB: 1 903 cases 3.3/100 000 • Treatment success: 83% • Previously treated cases: 17.0% of all patients registered • MTB/HIV estimated co-infection rate: 19.0/100 000 • HIV-positive TB cases: 8.0% | <ul style="list-style-type: none"> • WHO Control Category: 3 • Year N.T.P. was established: 1995 • Year of Rifampicin Introduction: 1971 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 90% • Use of Directly Observed Therapy: during 1st 2 months: Yes (80% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (20% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|------------------------------------------|----------------------------------------------------------------|
| Target Area: Half of the country* | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: Cluster | Drug Susceptibility Testing Method: Proportion + Bactec |
| Sampling Fraction: 23% | Laboratory accuracy: 98.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



* 100% isolates were sampled from 45 centres in half of the country

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	683	100	127	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	599	87.7	50	39.4		79.5
ANY RESISTANCE	84	12.3	77	60.6		20.5
- Isoniazid (INH)	38	5.6	55	43.3		12.0
- Rifampicin (RMP)	15	2.2	57	44.9		9.5
- Ethambutol (EMB)	6	.9	34	26.8		5.3
- Streptomycin (SM)	48	7.0	38	29.9		10.9
MONORESISTANCE	65	9.5	20	15.7		10.6
- Isoniazid (INH)	20	2.9	6	4.7		3.2
- Rifampicin (RMP)	6	.9	6	4.7		1.5
- Ethambutol (EMB)	3	.4	1	.8		.5
- Streptomycin (SM)	36	5.3	8	6.3		5.4
MULTIDRUG RESISTANCE	8	1.2	43	33.9		6.7
- INH + RMP	5	.7	9	7.1		1.8
- INH + RMP + EMB	2	.3	14	11.0		2.1
- INH + RMP + SM	1	.1	9	7.1		1.3
- INH + RMP + EMB + SM	0	.0	11	8.7		1.5
OTHER PATTERNS	11	1.6	14	11.0		1.5
- INH + EMB	0	.0	1	.8		.1
- INH + SM	9	1.3	3	2.4		1.5
- INH + EMB + SM	1	.1	2	1.6		.4
- RMP + EMB	0	.0	3	2.4		.4
- RMP + SM	1	.1	3	2.4		.5
- RMP + EMB + SM	0	.0	2	1.6		.3
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	599	87.7	50	39.4		79.5
- 1	65	9.5	20	15.7		10.6
- 2	15	2.2	19	15.0		4.4
- 3	4	.6	27	21.3		4.1
- 4	0	.0	11	8.7		1.5

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

LATVIA

YEAR OF SURVEY: 1998

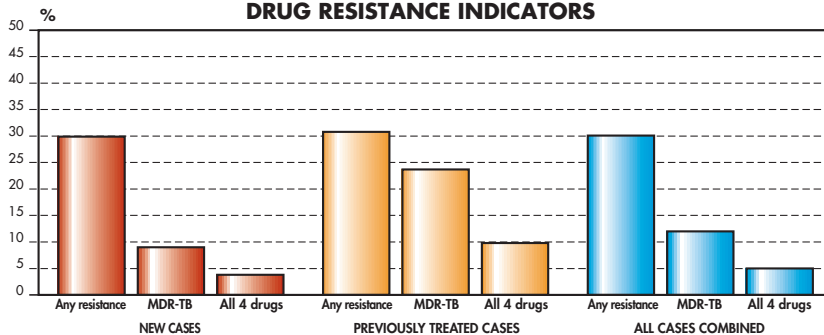
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **2 458 403**
- World Bank Income Category: **Lower-middle-income**
- Tuberculosis case notification: **88.7/100 000**
- Tuberculosis estimated incidence: **82.0/100 000**
- Notified incidence of new sputum smear positive TB: **668 cases 27.2/100 000**
- Treatment success: **70%**
- Previously treated cases: **20.5% of all patients registered**
- MTB/HIV estimated co-infection rate: **1.0/100 000**
- HIV-positive TB cases: **0%**
- WHO Control Category: **4**
- Year N.T.P. was established: **1995**
- Year of Rifampicin Introduction: **1975**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **92%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (98% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **Yes (% of patients not available)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Absolute concentration |
| Sampling Fraction: 100% | Laboratory accuracy: 95.0% |
| Study duration: 3 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	789	100	224	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	553	70.1	155	69.2		69.9
ANY RESISTANCE	236	29.9	69	30.8		30.1
- Isoniazid (INH)	222	28.1	65	29.0		28.3
- Rifampicin (RMP)	71	9.0	56	25.0		12.3
- Ethambutol (EMB)	36	4.6	23	10.3		5.7
- Streptomycin (SM)	173	21.9	55	24.6		22.5
MONORESISTANCE	71	9.0	11	4.9		8.2
- Isoniazid (INH)	57	7.2	7	3.1		6.4
- Rifampicin (RMP)	0	.0	3	1.3		.3
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	14	1.8	1	.4		1.5
MULTIDRUG RESISTANCE	71	9.0	53	23.7		12.0
- INH + RMP	4	.5	4	1.8		.8
- INH + RMP + EMB	1	.1	0	.0		.1
- INH + RMP + SM	36	4.6	27	12.1		6.1
- INH + RMP + EMB + SM	30	3.8	22	9.8		5.0
OTHER PATTERNS	94	11.9	5	2.2		9.7
- INH + EMB	1	.1	0	.0		.1
- INH + SM	89	11.3	4	1.8		9.3
- INH + EMB + SM	4	.5	1	.4		.5
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	553	70.1	155	69.2		69.9
- 1	71	9.0	11	4.9		8.2
- 2	94	11.9	8	3.6		10.2
- 3	41	5.2	28	12.5		6.7
- 4	30	3.8	22	9.8		5.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

MALAYSIA

YEAR OF SURVEY: **1996-97***

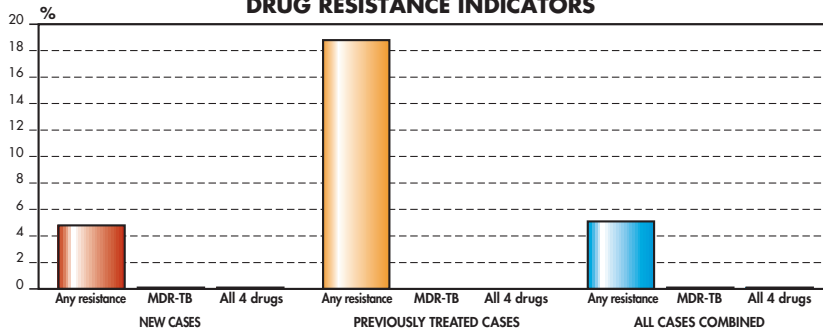
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 16 489 355 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 64.4/100 000 • Tuberculosis estimated incidence: 112.0/100 000 • Notified incidence of new sputum smear positive TB: 7 596 cases 46.1/100 000 • Treatment success: 84% • Previously treated cases: 1.9% of all patients registered • MTB/HIV estimated co-infection rate: 108.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1961 • Year of Rifampicin Introduction: 1978 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 96% • Use of Directly Observed Therapy: during 1st 2 months: Yes (60% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|------------------------------------------|-------------------------------------------------------------------|
| Target Area: Peninsular Malaysia* | Culture Media: Ogawa |
| Sampling Method: Cluster | Drug Susceptibility Testing Method: Absolute concentration |
| Sampling Fraction: 9 % | Laboratory accuracy: 98.2% |
| Study duration: 17 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



* Profile is for all of Malaysia, while DRS data are for Peninsular Malaysia (80% of population)

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	1 001	100	16	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	953	95.2	13	81.3		94.9
ANY RESISTANCE	48	4.8	3	18.8		5.1
- Isoniazid (INH)	16	1.6	0	.0		1.6
- Rifampicin (RMP)	5	.5	1	6.3		.6
- Ethambutol (EMB)	5	.5	0	.0		.5
- Streptomycin (SM)	30	3.0	2	12.5		3.2
MONORESISTANCE	42	4.2	3	18.8		4.5
- Isoniazid (INH)	10	1.0	0	.0		1.0
- Rifampicin (RMP)	4	.4	1	6.3		.5
- Ethambutol (EMB)	4	.4	0	.0		.4
- Streptomycin (SM)	24	2.4	2	12.5		2.6
MULTIDRUG RESISTANCE	1	.1	0	.0		.1
- INH + RMP	0	.0	0	.0		.0
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	0	.0	0	.0		.0
- INH + RMP + EMB + SM	1	.1	0	.0		.1
OTHER PATTERNS	5	.5	0	.0		.5
- INH + EMB	0	.0	0	.0		.0
- INH + SM	5	.5	0	.0		.5
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	953	95.2	13	81.3		94.9
- 1	42	4.2	3	18.8		4.5
- 2	5	.5	0	.0		.5
- 3	0	.0	0	.0		.0
- 4	1	.1	0	.0		.1

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

MEXICO (Baja California, Oaxaca and Sinaloa)

YEAR OF SURVEY: **1997***

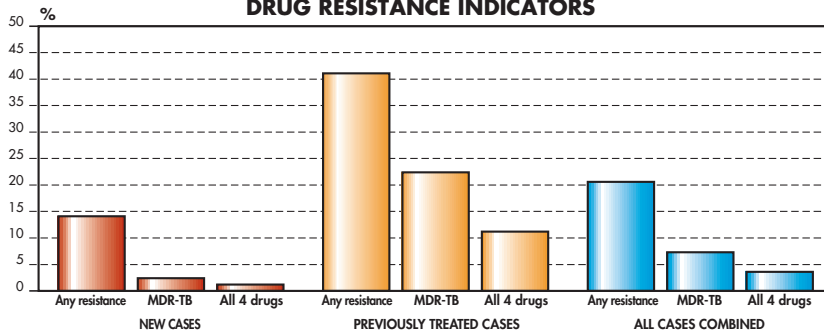
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **94 732 320**
- World Bank Income Category: **Upper-middle-income**
- Tuberculosis case notification: **25.0/100 000**
- Tuberculosis estimated incidence: **40.0/100 000**
- Notified incidence of new sputum smear positive TB: **16 249 cases 17.2/100 000**
- Treatment success: **76%**
- Previously treated cases: **24.3% of all patients registered**
- MTB/HIV estimated co-infection rate: **31.0/100 000**
- HIV-positive TB cases: **3.0%**
- WHO Control Category: **2**
- Year N.T.P. was established: **1939**
- Year of Rifampicin Introduction: **1988**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **79%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (88% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **Yes (100% of patients)**
- Treatment In Private Sector: **Cat. 3**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|---------------------------------------------------|
| Target Area: 3 States | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Bactec |
| Sampling Fraction: 50% | Laboratory accuracy: 97.5% |
| Study duration: 7 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



* Country profile is for Mexico, while DRS data are for the 3 states surveyed

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	334	100	107	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	287	85.9	63	58.9		79.4
ANY RESISTANCE	47	14.1	44	41.1		20.6
- Isoniazid (INH)	24	7.2	35	32.7		13.4
- Rifampicin (RMP)	12	3.6	30	28.0		9.5
- Ethambutol (EMB)	10	3.0	15	14.0		5.7
- Streptomycin (SM)	24	7.2	20	18.7		10.0
MONORESISTANCE	35	10.5	16	15.0		11.6
- Isoniazid (INH)	14	4.2	11	10.3		5.7
- Rifampicin (RMP)	2	.6	2	1.9		.9
- Ethambutol (EMB)	1	.3	0	.0		.2
- Streptomycin (SM)	18	5.4	3	2.8		4.8
MULTIDRUG RESISTANCE	8	2.4	24	22.4		7.3
- INH + RMP	1	.3	9	8.4		2.3
- INH + RMP + EMB	1	.3	2	1.9		.7
- INH + RMP + SM	2	.6	1	.9		.7
- INH + RMP + EMB + SM	4	1.2	12	11.2		3.6
OTHER PATTERNS	4	1.2	4	3.7		1.0
- INH + EMB	2	.6	0	.0		.5
- INH + SM	0	.0	0	.0		.0
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	2	.6	0	.0		.5
- RMP + SM	0	.0	3	2.8		.7
- RMP + EMB + SM	0	.0	1	.9		.2
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	287	85.9	63	58.9		79.4
- 1	35	10.5	16	15.0		11.6
- 2	5	1.5	12	11.2		3.9
- 3	3	.9	4	3.7		1.6
- 4	4	1.2	12	11.2		3.6

MOROCCO (Casablanca)

YEAR OF SURVEY: 1997-98

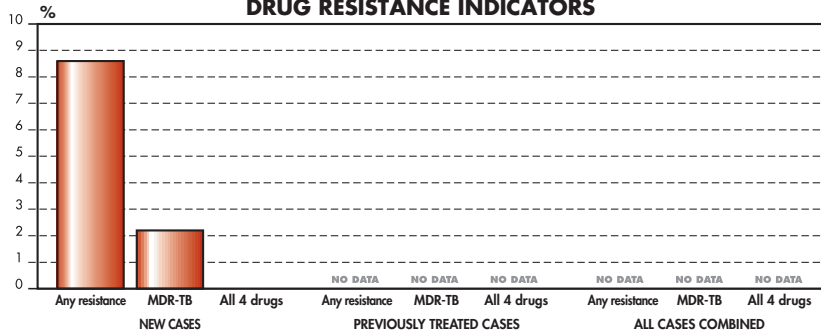
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 3 297 000 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 152.5/100 000 • Tuberculosis estimated incidence: 122.0/100 000 • Notified incidence of new sputum smear positive TB: 2 163 cases 65.6/100 000 • Treatment success: 90% • Previously treated cases: 7.3% of all patients registered • MTB/HIV estimated co-infection rate: 8.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1954 • Year of Rifampicin Introduction: 1969 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|---------------------------------|------------------------------------------------------|
| Target Area: City-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Cluster | Drug Suceptibility Testing Method: Proportion |
| Sampling Fraction: 25% | Laboratory accuracy: 100.0% |
| Study duration: 6 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases*		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	510	100				
SUSCEPTIBLE TO ALL 4 DRUGS	466	91.4				
ANY RESISTANCE	44	8.6				
- Isoniazid (INH)	40	7.8				
- Rifampicin (RMP)	12	2.4				
- Ethambutol (EMB)	1	.2				
- Streptomycin (SM)	23	4.5				
MONORESISTANCE	18	3.5				
- Isoniazid (INH)	14	2.7				
- Rifampicin (RMP)	1	.2				
- Ethambutol (EMB)	0	.0				
- Streptomycin (SM)	3	.6				
MULTIDRUG RESISTANCE	11	2.2				
- INH + RMP	5	1.0				
- INH + RMP + EMB	1	.2				
- INH + RMP + SM	5	1.0				
- INH + RMP + EMB + SM	0	.0				
OTHER PATTERNS	15	2.9				
- INH + EMB	0	.0				
- INH + SM	15	2.9				
- INH + EMB + SM	0	.0				
- RMP + EMB	0	.0				
- RMP + SM	0	.0				
- RMP + EMB + SM	0	.0				
- EMB + SM	0	.0				
NUMBER OF DRUGS RESISTANT TO:						
- 0	466	91.4				
- 1	18	3.5				
- 2	20	3.9				
- 3	6	1.2				
- 4	0	.0				

* All samples were re-tested at the IRL (Institute Pasteur, France)

MOZAMBIQUE

YEAR OF SURVEY: **1998-99**

PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **16 916 638**
- World Bank Income Category: **Low-income**
- Tuberculosis case notification: **100.0/100 000**
- Tuberculosis estimated incidence: **254.0/100 000**
- Notified incidence of new sputum smear positive TB: **12 116 cases 71.6/100 000**
- Treatment success: **67%**
- Previously treated cases: **9.3% of all patients registered**
- MTB/HIV estimated co-infection rate: **2 303.0/100 000**
- HIV-positive TB cases: **30.0%**
- WHO Control Category: **3**
- Year N.T.P. was established: **1977**
- Year of Rifampicin Introduction: **1984**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **75%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (80% of patients)**
During continuation phase: **No**
- Use of Fixed Dose Combination: **Yes (100% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**

Sampling Method: **Proportionate cluster**

Sampling Fraction: **7%**

Study duration: **9 months**

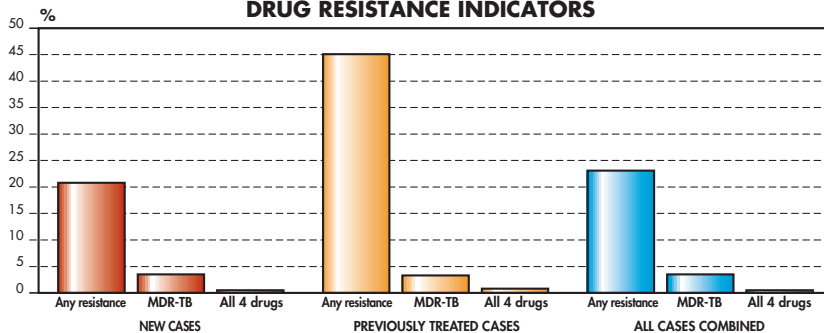
Culture Media: **Löwenstein-Jensen**

Drug Susceptibility Testing Method: **Proportion**

Laboratory accuracy: **90.0%**

Rifampicin specificity: **100.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	1 028	100	122	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	815	79.3	67	54.9		77.0
ANY RESISTANCE	214	20.8	55	45.1		23.1
- Isoniazid (INH)	170	16.5	50	41.0		18.8
- Rifampicin (RMP)	54	5.3	5	4.1		5.1
- Ethambutol (EMB)	5	.5	1	.8		.5
- Streptomycin (SM)	108	10.5	30	24.6		11.8
MONORESISTANCE	125	12.2	27	22.1		13.1
- Isoniazid (INH)	81	7.9	22	18.0		8.8
- Rifampicin (RMP)	18	1.8	1	.8		1.7
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	26	2.5	4	3.3		2.6
MULTIDRUG RESISTANCE	36	3.5	4	3.3		3.5
- INH + RMP	7	.7	2	1.6		.8
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	24	2.3	1	.8		2.2
- INH + RMP + EMB + SM	5	.5	1	.8		.5
OTHER PATTERNS	53	5.2	24	19.7		5.7
- INH + EMB	0	.0	0	.0		.0
- INH + SM	53	5.2	24	19.7		6.5
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	815	79.3	67	54.9		77.0
- 1	125	12.2	27	22.1		13.1
- 2	60	5.8	26	21.3		7.3
- 3	24	2.3	1	.8		2.2
- 4	5	.5	1	.8		.5

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

NEPAL

YEAR OF SURVEY: 1999*

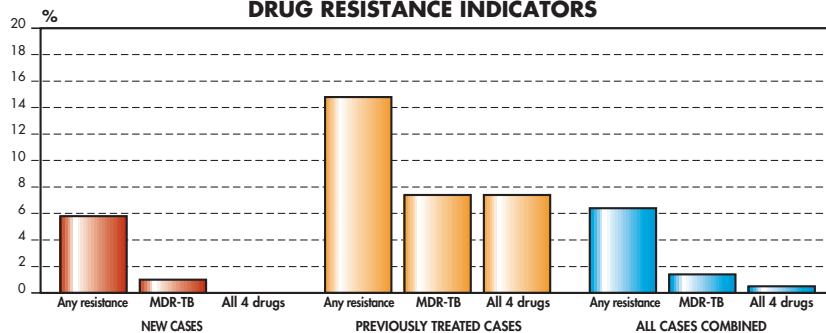
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **22 847 345**
- World Bank Income Category: **Low-income**
- Tuberculosis case notification: **105.6/100 000**
- Tuberculosis estimated incidence: **211.0/100 000**
- Notified incidence of new sputum smear positive TB: **11 306 cases 49.5/100 000**
- Treatment success: **80%**
- Previously treated cases: **7.0% of all patients registered**
- MTB/HIV estimated co-infection rate: **51.0/100 000**
- HIV-positive TB cases: **1.0%**
- WHO Control Category: **3**
- Year N.T.P. was established: **1965**
- Year of Rifampicin Introduction: **1990**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **17%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (17% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **No (0% of patients)**
- Treatment In Private Sector: **Cat. 3**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**Sampling Method: **All cases**Sampling Fraction: **100%**Study duration: **6 months**Culture Media: **Löwenstein-Jensen**Drug Susceptibility Testing Method: **Proportion**Laboratory accuracy: **92.2%**Rifampicin specificity: **97.3%**

DRUG RESISTANCE INDICATORS



* Preliminary

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	104	100	27	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	98	94.2	23	85.2		93.6
ANY RESISTANCE	6	5.8	4	14.8		6.4
- Isoniazid (INH)	2	1.9	3	11.1		2.6
- Rifampicin (RMP)	1	1.0	2	7.4		1.4
- Ethambutol (EMB)	0	.0	2	7.4		.5
- Streptomycin (SM)	5	4.8	3	11.1		5.2
MONORESISTANCE	5	4.8	2	7.4		5.0
- Isoniazid (INH)	1	1.0	1	3.7		1.2
- Rifampicin (RMP)	0	.0	0	.0		.0
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	4	3.8	1	3.7		3.8
MULTIDRUG RESISTANCE	1	1.0	2	7.4		1.4
- INH + RMP	0	.0	0	.0		.0
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	1	1.0	0	.0		.9
- INH + RMP + EMB + SM	0	.0	2	7.4		.5
OTHER PATTERNS	0	.0	0	.0		.0
- INH + EMB	0	.0	0	.0		.0
- INH + SM	0	.0	0	.0		.0
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	98	94.2	23	85.2		93.6
- 1	5	4.8	2	7.4		5.0
- 2	0	.0	0	.0		.0
- 3	1	1.0	0	.0		.9
- 4	0	.0	2	7.4		.5

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

NETHERLANDS

YEAR OF SURVEY: **1996**

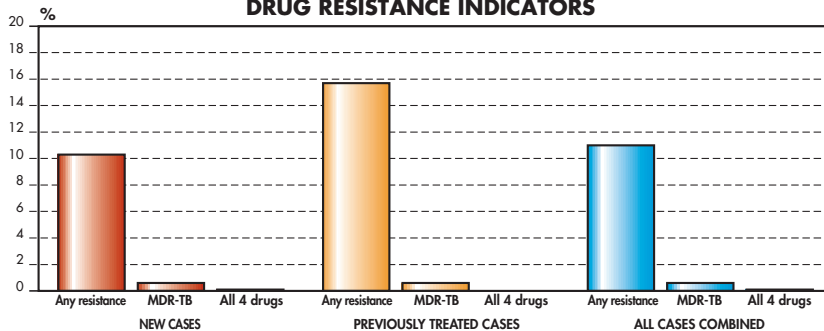
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 15 493 900 • World Bank Income Category: High-income • Tuberculosis case notification: 10.8/100 000 • Tuberculosis estimated incidence: 11.0/100 000 • Notified incidence of new sputum smear positive TB: 358 cases 2.3/100 000 • Treatment success: 82% • Previously treated cases: 16.0% of all patients registered • MTB/HIV estimated co-infection rate: 11.0/100 000 • HIV-positive TB cases: 13.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1953 • Year of Rifampicin Introduction: 1965 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (5% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (% of patients not available) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Target Area: Country-wide</p> <p>Sampling Method: All cases</p> <p>Sampling Fraction: 100%</p> <p>Study duration: 12 months</p> | <p>Culture Media: Various</p> <p>Drug Susceptibility Testing Method: Absolute concentration</p> <p>Laboratory accuracy: 91.0%</p> <p>Rifampicin specificity: 100.0%</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases*		Combined	
	N	%	N	%	N	%
Total number of strains tested	1 042	100	172	100	1 214	100
SUSCEPTIBLE TO ALL 4 DRUGS	935	89.7	145	84.3	1 080	89.0
ANY RESISTANCE	107	10.3	27	15.7	134	11.0
- Isoniazid (INH)	66	6.3	16	9.3	82	6.8
- Rifampicin (RMP)	11	1.1	2	1.2	13	1.1
- Ethambutol (EMB)	5	.5	0	.0	5	.4
- Streptomycin (SM)	50	4.8	13	7.6	63	5.2
MONORESISTANCE	65	6.2	20**	11.6	85**	7.0
- Isoniazid (INH)	36	3.5	10	5.8	46	3.8
- Rifampicin (RMP)	3	.3	0	.0	3	.2
- Ethambutol (EMB)	4	.4	0	.0	4	.3
- Streptomycin (SM)	22	2.1	8	4.7	30	2.5
MULTIDRUG RESISTANCE	6	.6	1	.6	7	.6
- INH + RMP	3	.3	1	.6	4	.3
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	2	.2	0	.0	2	.2
- INH + RMP + EMB + SM	1	.1	0	.0	1	.1
OTHER PATTERNS	26**	2.5	6**	3.5	32**	2.6
- INH + EMB	0	.0	0	.0		.0
- INH + SM	23	2.2	5	2.9	28	2.3
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	2	.2	0	.0	2	.2
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	935	89.7	145	84.3	1 080	89.0
- 1	65	6.2	20	11.6	85	7.0
- 2	28	2.7	6	3.5	34	2.8
- 3	2	.2	0	.0	2	.2
- 4	1	.1	0	.0	1	.1

* 14 subjects with unknown treatment history were included in the retreatment category

** For some categories the numbers do not add up because of resistance to other drugs not tested in the Global Project

NEW CALEDONIA

YEAR OF SURVEY: **1995-96**

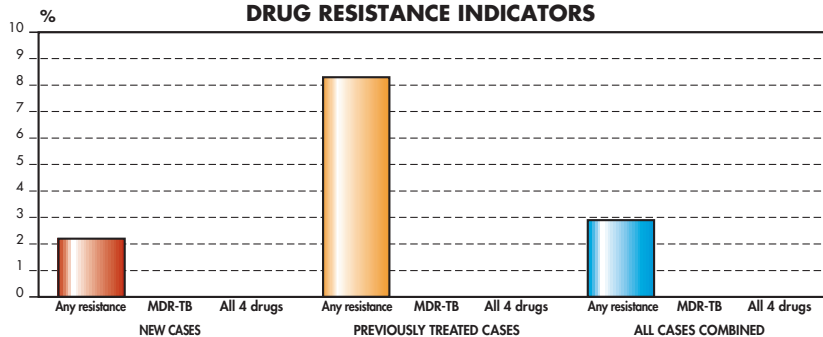
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 200 000 • World Bank Income Category: High-income • Tuberculosis case notification: 111.0/100 000 • Tuberculosis estimated incidence: 89.0/100 000 • Notified incidence of new sputum smear positive TB: 49 cases 24.5/100 000 • Treatment success: 83% • Previously treated cases: 11.0% of all patients registered • MTB/HIV estimated co-infection rate: 0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1989 • Year of Rifampicin Introduction: 1966 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (60% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 95.0% |
| Study duration: 21 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	93	100	12	100	105	100
SUSCEPTIBLE TO ALL 4 DRUGS	91	97.8	11	91.7	102	97.1
ANY RESISTANCE	2	2.2	1	8.3	3	2.9
- Isoniazid (INH)	0	.0	1	8.3	1	1.0
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	2	2.2	1	8.3	3	2.9
MONORESISTANCE	2	2.2	0	.0	2	1.9
- Isoniazid (INH)	0	.0	0	.0	0	.0
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	2	2.2	0	.0	2	1.9
MULTIDRUG RESISTANCE	0	.0	0	.0	0	.0
- INH + RMP	0	.0	0	.0	0	.0
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	0	.0	1	8.3	1	1.0
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	0	.0	1	8.3	1	1.0
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	91	97.8	11	91.7	102	97.1
- 1	2	2.2	0	.0	2	1.9
- 2	0	.0	1	8.3	1	1.0
- 3	0	.0	0	.0	0	.0
- 4	0	.0	0	.0	0	.0

NEW ZEALAND

YEAR OF SURVEY: **1997**

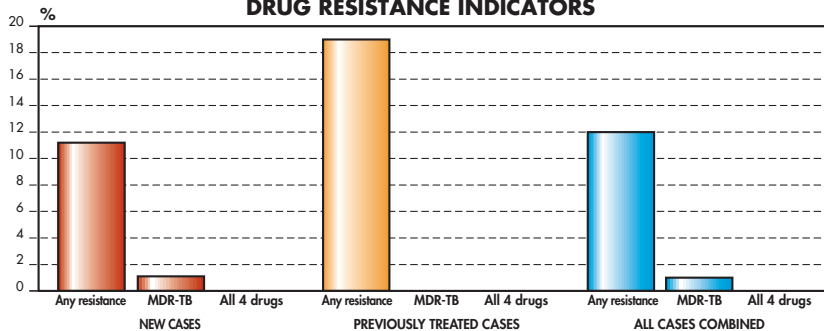
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 3 618 288 • World Bank Income Category: High-income • Tuberculosis case notification: 9.0/100 000 • Tuberculosis estimated incidence: 5.0/100 000 • Notified incidence of new sputum smear positive TB: 59 cases 1.6/100 000 • Treatment success: 90% • Previously treated cases: 11.2% of all patients registered • MTB/HIV estimated co-infection rate: 2.0/100 000 • HIV-positive TB cases: 0% | <ul style="list-style-type: none"> • WHO Control Category: 5 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1969 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 96% • Use of Directly Observed Therapy: during 1st 2 months: Yes (30% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 97.5% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	179	100	21	100	200	100
SUSCEPTIBLE TO ALL 4 DRUGS	159	88.8	17	81.0	176	88.0
ANY RESISTANCE	20	11.2	4	19.0	24	12.0
- Isoniazid (INH)	17	9.5	2	9.5	19	9.5
- Rifampicin (RMP)	2	1.1	2	9.5	4	2.0
- Ethambutol (EMB)	1	.6	2	9.5	3	1.5
- Streptomycin (SM)	5	2.8	2	9.5	7	3.5
MONORESISTANCE	15	8.4	1	4.8	16	8.0
- Isoniazid (INH)	12	6.7	1	4.8	13	6.5
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	1	.6	0	.0	1	.5
- Streptomycin (SM)	2	1.1	0	.0	2	1.0
MULTIDRUG RESISTANCE	2	1.1	0	.0	2	1.0
- INH + RMP	2	1.1	0	.0	2	1.0
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	3	1.7	3	14.3	6	3.0
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	3	1.7	1	4.8	4	2.0
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	1	4.8	1	.5
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	1	4.8	1	.5
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	159	88.8	17	81.0	176	88.0
- 1	15	8.4	1	4.8	16	8.0
- 2	5	2.8	2	9.5	7	3.5
- 3	0	.0	1	4.8	1	.5
- 4	0	.0	0	.0	0	.0

NICARAGUA

YEAR OF SURVEY: **1997-98**

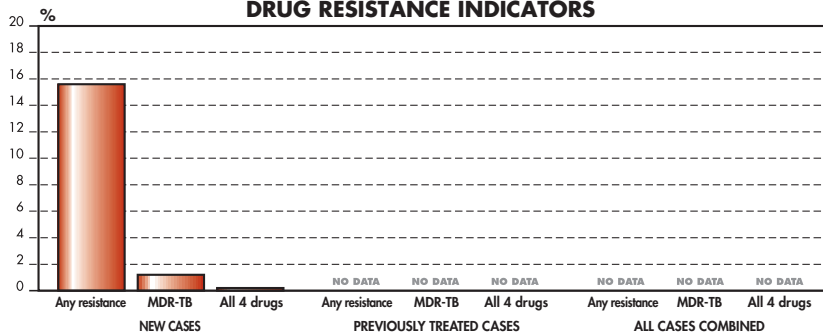
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 4 420 856 • World Bank Income Category: Low-income • Tuberculosis case notification: 64.5/100 000 • Tuberculosis estimated incidence: 95.0/100 000 • Notified incidence of new sputum smear positive TB: 1 670 cases 37.8/100 000 • Treatment success: 80% • Previously treated cases: 7.0% of all patients registered • MTB/HIV estimated co-infection rate: 32.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1950 • Year of Rifampicin Introduction: 1978 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 97% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------------------|------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Suceptibility Testing Method: Proportion |
| Sampling Fraction: 20% | Laboratory accuracy: 100.0% |
| Study duration: 20 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	564	100				
SUSCEPTIBLE TO ALL 4 DRUGS	476	84.4				
ANY RESISTANCE	88	15.6				
- Isoniazid (INH)	53	9.4				
- Rifampicin (RMP)	10	1.8				
- Ethambutol (EMB)	4	.7				
- Streptomycin (SM)	49	8.7				
MONORESISTANCE	68	12.1				
- Isoniazid (INH)	33	5.9				
- Rifampicin (RMP)	3	.5				
- Ethambutol (EMB)	1	.2				
- Streptomycin (SM)	31	5.5				
MULTIDRUG RESISTANCE	7	1.2				
- INH + RMP	1	.2				
- INH + RMP + EMB	1	.2				
- INH + RMP + SM	4	.7				
- INH + RMP + EMB + SM	1	.2				
OTHER PATTERNS	13	2.3				
- INH + EMB	0	.0				
- INH + SM	12	2.1				
- INH + EMB + SM	1	.2				
- RMP + EMB	0	.0				
- RMP + SM	0	.0				
- RMP + EMB + SM	0	.0				
- EMB + SM	0	.0				
NUMBER OF DRUGS RESISTANT TO:						
- 0	476	84.4				
- 1	68	12.1				
- 2	13	2.3				
- 3	6	1.1				
- 4	1	.2				

NORTHERN IRELAND

YEAR OF SURVEY: **1997**

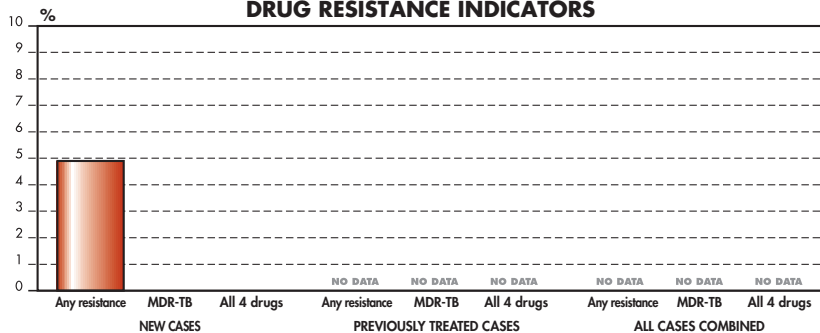
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 1 663 000 • World Bank Income Category: High-income • Tuberculosis case notification: 3.2/100 000 • Tuberculosis estimated incidence: 3.8/100 000 • Notified incidence of new sputum smear positive TB: 17 cases 1.0/100 000 • Treatment success: 95% • Previously treated cases: 22.0% of all patients registered • MTB/HIV estimated co-infection rate: 6.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1969 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Not available (% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Resistance ratio |
| Sampling Fraction: 100% | Laboratory accuracy: 100.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	41	100				
SUSCEPTIBLE TO ALL 4 DRUGS	39	95.1				
ANY RESISTANCE	2	4.9				
- Isoniazid (INH)	1	2.4				
- Rifampicin (RMP)	0	.0				
- Ethambutol (EMB)	0	.0				
- Streptomycin (SM)	1	2.4				
MONORESISTANCE	2	4.9				
- Isoniazid (INH)	1	2.4				
- Rifampicin (RMP)	0	.0				
- Ethambutol (EMB)	0	.0				
- Streptomycin (SM)	1	2.4				
MULTIDRUG RESISTANCE	0	.0				
- INH + RMP	0	.0				
- INH + RMP + EMB	0	.0				
- INH + RMP + SM	0	.0				
- INH + RMP + EMB + SM	0	.0				
OTHER PATTERNS	0	.0				
- INH + EMB	0	.0				
- INH + SM	0	.0				
- INH + EMB + SM	0	.0				
- RMP + EMB	0	.0				
- RMP + SM	0	.0				
- RMP + EMB + SM	0	.0				
- EMB + SM	0	.0				
NUMBER OF DRUGS RESISTANT TO:						
- 0	39	95.1				
- 1	2	4.9				
- 2	0	.0				
- 3	0	.0				
- 4	0	.0				

NORWAY

YEAR OF SURVEY: **1996**

PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **4 381 336**
- World Bank Income Category: **High-income**
- Tuberculosis case notification: **5.0/100 000**
- Tuberculosis estimated incidence: **6.0/100 000**
- Notified incidence of new sputum smear positive TB: **103 cases 2.4/100 000**
- Treatment success: **84%**
- Previously treated cases: **5.0% of all patients registered**
- MTB/HIV estimated co-infection rate: **4.0/100 000**
- HIV-positive TB cases: **1.0%**
- WHO Control Category: **4**
- Year N.T.P. was established: **1900**
- Year of Rifampicin Introduction: **1968**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **100%**
- Use of Directly Observed Therapy: during 1st 2 months: **No (0% of patients)**
During continuation phase: **No**
- Use of Fixed Dose Combination: **Yes (15% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**

Sampling Method: **All cases**

Sampling Fraction: **100%**

Study duration: **12 months**

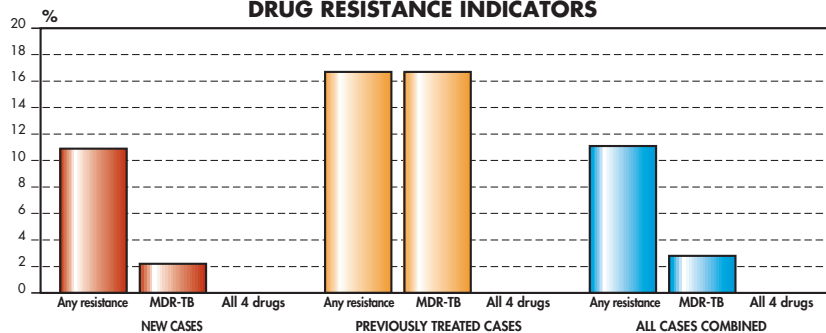
Culture Media: **Löwenstein-Jensen**

Drug Susceptibility Testing Method: **Bactec**

Laboratory accuracy: **97.5%**

Rifampicin specificity: **100.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	138	100	6	100	144	100
SUSCEPTIBLE TO ALL 4 DRUGS	123	89.1	5	83.3	128	88.9
ANY RESISTANCE	15	10.9	1	16.7	16	11.1
- Isoniazid (INH)	11	8.0	1	16.7	12	8.3
- Rifampicin (RMP)	3	2.2	1	16.7	4	2.8
- Ethambutol (EMB)	1	.7	0	.0	1	.7
- Streptomycin (SM)	6	4.3	0	.0	6	4.2
MONORESISTANCE	10	7.2	0	.0	10	6.9
- Isoniazid (INH)	6	4.3	0	.0	6	4.2
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	4	2.9	0	.0	4	2.8
MULTIDRUG RESISTANCE	3	2.2	1	16.7	4	2.8
- INH + RMP	2	1.4	1	16.7	3	2.1
- INH + RMP + EMB	1	.7	0	.0	1	.7
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	2	1.4	0	.0	2	1.4
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	2	1.4	0	.0	2	1.4
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	123	89.1	5	83.3	128	88.9
- 1	10	7.2	0	.0	10	6.9
- 2	4	2.9	1	16.7	5	3.5
- 3	1	.7	0	.0	1	.7
- 4	0	.0	0	.0	0	.0

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YEAR OF SURVEY: **1998-99**

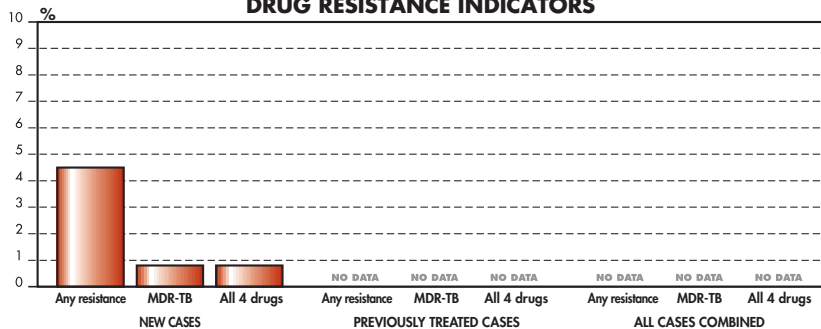
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 2 288 000 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 12.6/100 000 • Tuberculosis estimated incidence: 13.0/100 000 • Notified incidence of new sputum smear positive TB: 109 cases 4.8/100 000 • Treatment success: 90% • Previously treated cases: 2.0% of all patients registered • MTB/HIV estimated co-infection rate: 3.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1981 • Year of Rifampicin Introduction: 1982 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Suceptibility Testing Method: Proportion |
| Sampling Fraction: 25% | Laboratory accuracy: 90.9% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	133	100				
SUSCEPTIBLE TO ALL 4 DRUGS	127	95.5				
ANY RESISTANCE	6	4.5				
- Isoniazid (INH)	4	3.0				
- Rifampicin (RMP)	2	1.5				
- Ethambutol (EMB)	2	1.5				
- Streptomycin (SM)	3	2.3				
MONORESISTANCE	4	3.0				
- Isoniazid (INH)	2	1.5				
- Rifampicin (RMP)	1	.8				
- Ethambutol (EMB)	0	.0				
- Streptomycin (SM)	1	.8				
MULTIDRUG RESISTANCE	1	.8				
- INH + RMP	0	.0				
- INH + RMP + EMB	0	.0				
- INH + RMP + SM	0	.0				
- INH + RMP + EMB + SM	1	.8				
OTHER PATTERNS	1	.8				
- INH + EMB	0	.0				
- INH + SM	0	.0				
- INH + EMB + SM	1	.8				
- RMP + EMB	0	.0				
- RMP + SM	0	.0				
- RMP + EMB + SM	0	.0				
- EMB + SM	0	.0				
NUMBER OF DRUGS RESISTANT TO:						
- 0	127	95.5				
- 1	4	3.0				
- 2	0	.0				
- 3	1	.8				
- 4	1	.8				

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YEAR OF SURVEY: **1999**

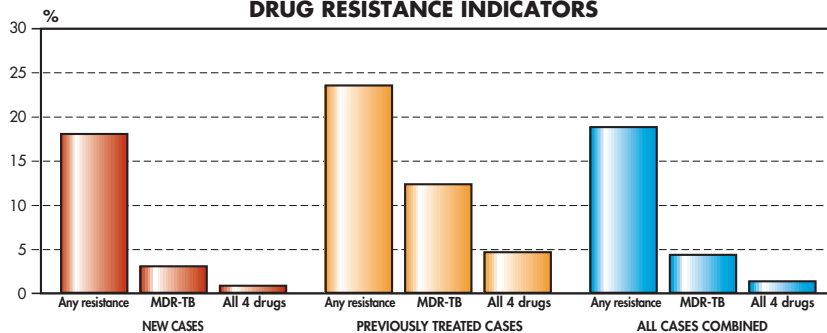
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 25 232 226 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 141.5/100 000 • Tuberculosis estimated incidence: 265.0/100 000 • Notified incidence of new sputum smear positive TB: 24 527 cases 97.2/100 000 • Treatment success: 93% • Previously treated cases: 14.0% of all patients registered • MTB/HIV estimated co-infection rate: 131.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1990 • Year of Rifampicin Introduction: 1980 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 7% | Laboratory accuracy: 100.0% |
| Study duration: 8 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	1 879	100	260	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	1 541	82.0	199	76.5		81.2
ANY RESISTANCE	338	18.0	61	23.5		18.8
- Isoniazid (INH)	170	9.0	42	16.2		10.0
- Rifampicin (RMP)	76	4.0	38	14.6		5.5
- Ethambutol (EMB)	48	2.6	14	5.4		3.0
- Streptomycin (SM)	220	11.7	33	12.7		11.8
MONORESISTANCE	223	11.9	26	10.0		11.6
- Isoniazid (INH)	67	3.6	8	3.1		3.5
- Rifampicin (RMP)	14	.7	5	1.9		.9
- Ethambutol (EMB)	15	.8	0	.0		.7
- Streptomycin (SM)	127	6.8	13	5.0		6.5
MULTIDRUG RESISTANCE	57	3.0	32	12.3		4.3
- INH + RMP	16	.9	13	5.0		1.4
- INH + RMP + EMB	4	.2	0	.0		.2
- INH + RMP + SM	22	1.2	7	2.7		1.4
- INH + RMP + EMB + SM	15	.8	12	4.6		1.3
OTHER PATTERNS	58	3.1	3	1.2		2.7
- INH + EMB	1	.1	1	.4		.1
- INH + SM	41	2.2	1	.4		1.9
- INH + EMB + SM	4	.2	0	.0		.2
- RMP + EMB	1	.1	1	.4		.1
- RMP + SM	3	.2	0	.0		.1
- RMP + EMB + SM	1	.1	0	.0		.0
- EMB + SM	7	.4	0	.0		.3
NUMBER OF DRUGS RESISTANT TO:						
- 0	1 541	82.0	199	76.5		81.2
- 1	223	11.9	26	10.0		11.6
- 2	69	3.7	16	6.2		4.0
- 3	31	1.6	7	2.7		1.8
- 4	15	.8	12	4.6		1.3

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

POLAND

YEAR OF SURVEY: 1996-97

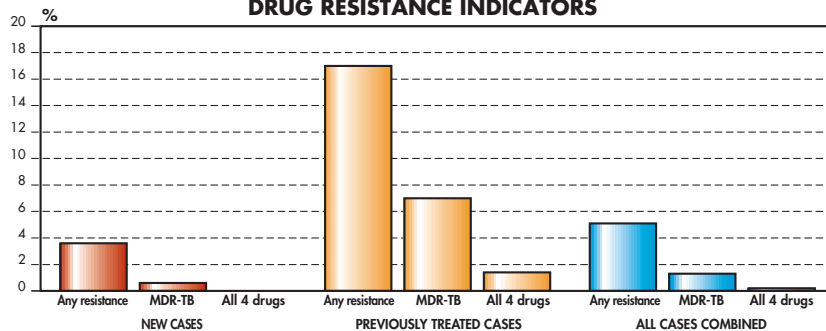
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **38 649 900**
- World Bank Income Category: **Upper-middle-income**
- Tuberculosis case notification: **36.1/100 000**
- Tuberculosis estimated incidence: **45.0/100 000**
- Notified incidence of new sputum smear positive TB: **3 497 cases 9.0/100 000**
- Treatment success: **88%**
- Previously treated cases: **11.1% of all patients registered**
- MTB/HIV estimated co-infection rate: **5.0/100 000**
- HIV-positive TB cases: **0%**
- WHO Control Category: **1**
- Year N.T.P. was established: **1963**
- Year of Rifampicin Introduction: **1969**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **96%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (97% of patients)**
During continuation phase: **No**
- Use of Fixed Dose Combination: **Yes (76% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**Sampling Method: **All cases**Sampling Fraction: **100%**Study duration: **12 months**Culture Media: **Löwenstein-Jensen & Bactec**Drug Susceptibility Testing Method: **Proportion**Laboratory accuracy: **96.0%**Rifampicin specificity: **100.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	2 976	100	994	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	2 870	96.4	825	83.0		94.9
ANY RESISTANCE	106	3.6	169	17.0		5.1
- Isoniazid (INH)	79	2.7	140	14.1		3.9
- Rifampicin (RMP)	20	.7	78	7.8		1.5
- Ethambutol (EMB)	3	.1	25	2.5		.4
- Streptomycin (SM)	53	1.8	92	9.3		2.6
MONORESISTANCE	71	2.4	77	7.7		3.0
- Isoniazid (INH)	44	1.5	50	5.0		1.9
- Rifampicin (RMP)	2	.1	6	.6		.1
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	25	.8	21	2.1		1.0
MULTIDRUG RESISTANCE	18	.6	70	7.0		1.3
- INH + RMP	5	.2	12	1.2		.3
- INH + RMP + EMB	2	.1	8	.8		.1
- INH + RMP + SM	11	.4	36	3.6		.7
- INH + RMP + EMB + SM	0	.0	14	1.4		.2
OTHER PATTERNS	17	.6	22	2.2		.5
- INH + EMB	0	.0	1	.1		.0
- INH + SM	16	.5	17	1.7		.7
- INH + EMB + SM	1	.0	2	.2		.1
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	2	.2		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	2 870	96.4	825	83.0		94.9
- 1	71	2.4	77	7.7		3.0
- 2	21	.7	32	3.2		1.0
- 3	14	.5	46	4.6		.9
- 4	0	.0	14	1.4		.2

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

PUERTO RICO

YEAR OF SURVEY: **1997**

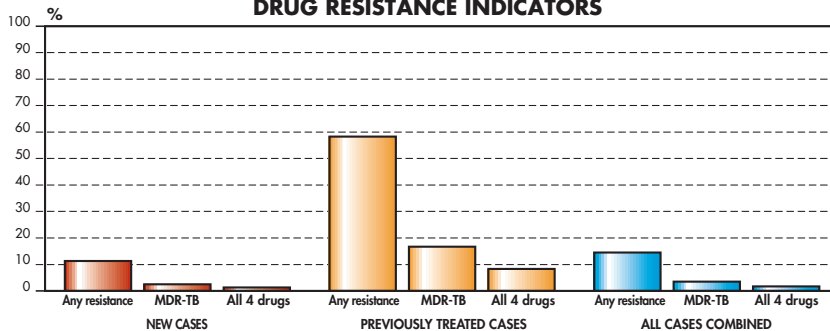
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 3 807 038 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 6.8/100 000 • Tuberculosis estimated incidence: 10.0/100 000 • Notified incidence of new sputum smear positive TB: 126 cases 3.3/100 000 • Treatment success: 70% • Previously treated cases: 3.5% of all patients registered • MTB/HIV estimated co-infection rate: 76.0/100 000 • HIV-positive TB cases: 50% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1953 • Year of Rifampicin Introduction: 1971 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 90% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|--------------------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion & Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 92.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	160	100	12	100	172	100
SUSCEPTIBLE TO ALL 4 DRUGS	142	88.8	5	41.7	147	85.5
ANY RESISTANCE	18	11.3	7	58.3	25	14.5
- Isoniazid (INH)	11	6.9	6	50.0	17	9.9
- Rifampicin (RMP)	5	3.1	3	25.0	8	4.7
- Ethambutol (EMB)	5	3.1	1	8.3	6	3.5
- Streptomycin (SM)	9	5.6	3	25.0	12	7.0
MONORESISTANCE	11	6.9	3	25.0	14	8.1
- Isoniazid (INH)	5	3.1	2	16.7	7	4.1
- Rifampicin (RMP)	1	.6	1	8.3	2	1.2
- Ethambutol (EMB)	1	.6	0	.0	1	.6
- Streptomycin (SM)	4	2.5	0	.0	4	2.3
MULTIDRUG RESISTANCE	4	2.5	2	16.7	6	3.5
- INH + RMP	1	.6	1	8.3	2	1.2
- INH + RMP + EMB	1	.6	0	.0	1	.6
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	2	1.3	1	8.3	3	1.7
OTHER PATTERNS	3	1.9	2	16.7	5	2.9
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	2	1.3	2	16.7	4	2.3
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	1	.6	0	.0	1	.6
NUMBER OF DRUGS RESISTANT TO:						
- 0	142	88.8	5	41.7	147	85.5
- 1	11	6.9	3	25.0	14	8.1
- 2	4	2.5	3	25.0	7	4.1
- 3	1	.6	0	.0	1	.6
- 4	2	1.3	1	8.3	3	1.7

REPUBLIC OF KOREA

YEAR OF SURVEY: **1998-99**

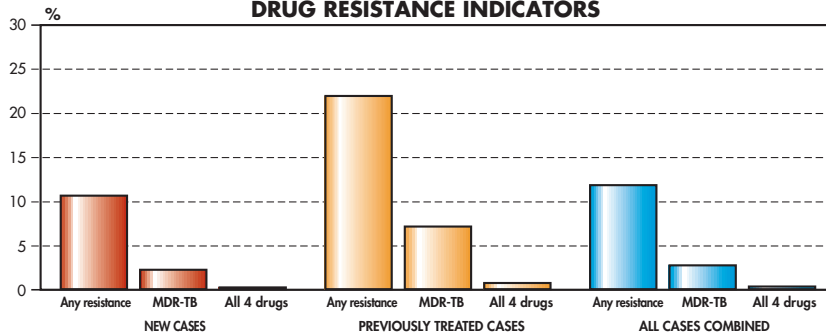
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 46 429 816 • World Bank Income Category: High-income • Tuberculosis case notification: 94.0/100 000 • Tuberculosis estimated incidence: 87.0/100 000 • Notified incidence of new sputum smear positive TB: 10 356 cases 22.3/100 000 • Treatment success: 82% • Previously treated cases: 10.4% of all patients registered • MTB/HIV estimated co-infection rate: 2.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1962 • Year of Rifampicin Introduction: 1984 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 99% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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| <p>Target Area: Country-wide</p> <p>Sampling Method: All cases</p> <p>Sampling Fraction: 100%</p> <p>Study duration: 4 months</p> | <p>Culture Media: Löwenstein-Jensen</p> <p>Drug Susceptibility Testing Method: Proportion</p> <p>Laboratory accuracy: 97.0%</p> <p>Rifampicin specificity: 100.0%</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	2 370	100	283	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	2 119	89.4	221	78.1		88.2
ANY RESISTANCE	251	10.6	62	21.9		11.8
- Isoniazid (INH)	204	8.6	49	17.3		9.5
- Rifampicin (RMP)	70	3.0	29	10.2		3.7
- Ethambutol (EMB)	26	1.1	10	3.5		1.4
- Streptomycin (SM)	74	3.1	19	6.7		3.5
MONORESISTANCE	161	6.8	28	9.9		7.1
- Isoniazid (INH)	116	4.9	19	6.7		5.1
- Rifampicin (RMP)	16	.7	5	1.8		.8
- Ethambutol (EMB)	1	.0	0	.0		.0
- Streptomycin (SM)	28	1.2	4	1.4		1.2
MULTIDRUG RESISTANCE	52	2.2	20	7.1		2.7
- INH + RMP	28	1.2	12	4.2		1.5
- INH + RMP + EMB	10	.4	4	1.4		.5
- INH + RMP + SM	9	.4	2	.7		.4
- INH + RMP + EMB + SM	5	.2	2	.7		.3
OTHER PATTERNS	38	1.6	14	4.9		1.5
- INH + EMB	6	.3	2	.7		.3
- INH + SM	26	1.1	7	2.5		1.2
- INH + EMB + SM	4	.2	1	.4		.2
- RMP + EMB	0	.0	1	.4		.0
- RMP + SM	2	.1	3	1.1		.2
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	2 119	89.4	221	78.1		88.2
- 1	161	6.8	28	9.9		7.1
- 2	62	2.6	25	8.8		3.3
- 3	23	1.0	7	2.5		1.1
- 4	5	.2	2	.7		.3

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

RUSSIAN FEDERATION (Tomsk Oblast)

YEAR OF SURVEY: 1998-99

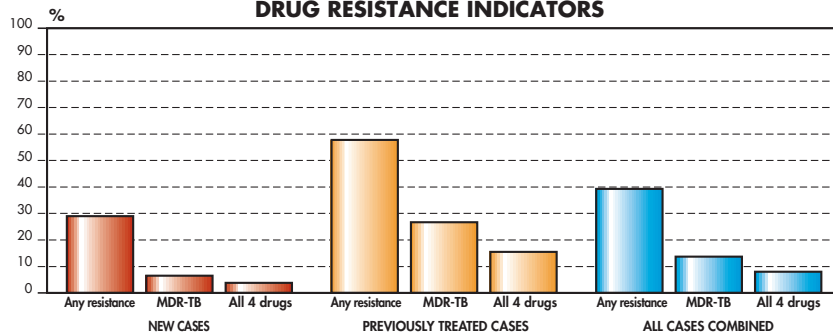
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **955 039**
- World Bank Income Category: **Lower-middle-income**
- Tuberculosis case notification: **75.2/100 000**
- Tuberculosis estimated incidence: **106.0/100 000**
- Notified incidence of new sputum smear positive TB: **344 cases 36.0/100 000**
- Treatment success: **78%**
- Previously treated cases: **24.7% of all patients registered**
- MTB/HIV estimated co-infection rate: **5.0/100 000**
- HIV-positive TB cases: **1.0%**
- WHO Control Category: **3**
- Year N.T.P. was established: **1997**
- Year of Rifampicin Introduction: **Not available**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **85%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (85% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **Yes (70% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------------------|
| Target Area: Oblast | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Absolute concentration |
| Sampling Fraction: 100% | Laboratory accuracy: 81.5% |
| Study duration: 12 months | Rifampicin specificity: 95.6% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	417	100	232	100	649	100
SUSCEPTIBLE TO ALL 4 DRUGS	296	71.0	98	42.2	394	60.7
ANY RESISTANCE	121	29.0	134	57.8	255	39.3
- Isoniazid (INH)	81	19.4	99	42.7	180	27.7
- Rifampicin (RMP)	33	7.9	72	31.0	105	16.2
- Ethambutol (EMB)	29	7.0	49	21.1	78	12.0
- Streptomycin (SM)	104	24.9	124	53.4	228	35.1
MONORESISTANCE	44	10.6	30	12.9	74	11.4
- Isoniazid (INH)	10	2.4	4	1.7	14	2.2
- Rifampicin (RMP)	2	.5	1	.4	3	.5
- Ethambutol (EMB)	1	.2	2	.9	3	.5
- Streptomycin (SM)	31	7.4	23	9.9	54	8.3
MULTIDRUG RESISTANCE	27	6.5	62	26.7	89	13.7
- INH + RMP	1	.2	2	.9	3	.5
- INH + RMP + EMB	1	.2	0	.0	1	.2
- INH + RMP + SM	9	2.2	24	10.3	33	5.1
- INH + RMP + EMB + SM	16	3.8	36	15.5	52	8.0
OTHER PATTERNS	50	12.0	42	18.1	92	14.2
- INH + EMB	1	.2	1	.4	2	.3
- INH + SM	37	8.9	26	11.2	63	9.7
- INH + EMB + SM	6	1.4	6	2.6	12	1.8
- RMP + EMB	1	.2	0	.0	1	.2
- RMP + SM	2	.5	5	2.2	7	1.1
- RMP + EMB + SM	1	.2	4	1.7	5	.8
- EMB + SM	2	.5	0	.0	2	.3
NUMBER OF DRUGS RESISTANT TO:						
- 0	296	71.0	98	42.2	394	60.7
- 1	44	10.6	30	12.9	74	11.4
- 2	44	10.6	34	14.7	78	12.0
- 3	17	4.1	34	14.7	51	7.9
- 4	16	3.8	36	15.5	52	8.0

RUSSIAN FEDERATION (Ivanovo Oblast)

YEAR OF SURVEY: **1998**

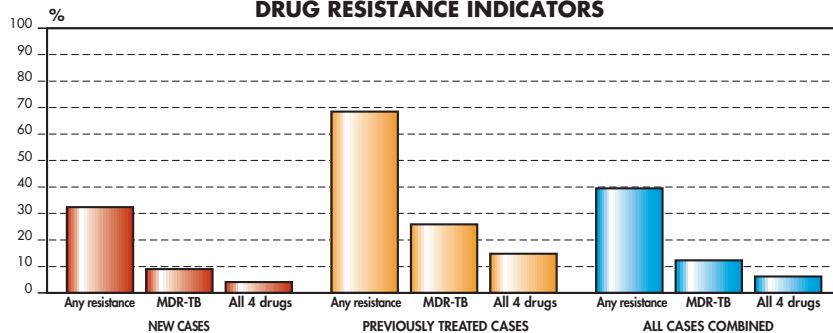
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 1 271 100 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 47.7/100 000 • Tuberculosis estimated incidence: 52.0/100 000 • Notified incidence of new sputum smear positive TB: 194 cases 15.2/100 000 • Treatment success: 57% • Previously treated cases: 15.0% of all patients registered • MTB/HIV estimated co-infection rate: 5.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1995 • Year of Rifampicin Introduction: 1987 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (80% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|-------------------------------------------------------|
| Target Area: Oblast | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 95.0% |
| Study duration: 12 months | Rifampicin specificity: 96.9% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	222	100	54	100	276	100
SUSCEPTIBLE TO ALL 4 DRUGS	150	67.6	17	31.5	167	60.5
ANY RESISTANCE	72	32.4	37	68.5	109	39.5
- Isoniazid (INH)	49	22.1	18	33.3	67	24.3
- Rifampicin (RMP)	35	15.8	23	42.6	58	21.0
- Ethambutol (EMB)	22	9.9	16	29.6	38	13.8
- Streptomycin (SM)	40	18.0	25	46.3	65	23.6
MONORESISTANCE	36	16.2	14	25.9	50	18.1
- Isoniazid (INH)	16	7.2	1	1.9	17	6.2
- Rifampicin (RMP)	0	.0	4	7.4	4	1.4
- Ethambutol (EMB)	6	2.7	4	7.4	10	3.6
- Streptomycin (SM)	14	6.3	5	9.3	19	6.9
MULTIDRUG RESISTANCE	20	9.0	14	25.9	34	12.3
- INH + RMP	7	3.2	1	1.9	8	2.9
- INH + RMP + EMB	2	.9	1	1.9	3	1.1
- INH + RMP + SM	2	.9	4	7.4	6	2.2
- INH + RMP + EMB + SM	9	4.1	8	14.8	17	6.2
OTHER PATTERNS	16	7.2	9	16.7	25	9.1
- INH + EMB	1	.5	0	.0	1	.4
- INH + SM	11	5.0	3	5.6	14	5.1
- INH + EMB + SM	1	.5	0	.0	1	.4
- RMP + EMB	0	.0	1	1.9	1	.4
- RMP + SM	0	.0	3	5.6	3	1.1
- RMP + EMB + SM	2	.9	1	1.9	3	1.1
- EMB + SM	1	.5	1	1.9	2	.7
NUMBER OF DRUGS RESISTANT TO:						
- 0	150	67.6	17	31.5	167	60.5
- 1	36	16.2	14	25.9	50	18.1
- 2	20	9.0	9	16.7	29	10.5
- 3	7	3.2	6	11.1	13	4.7
- 4	9	4.1	8	14.8	17	6.2

SCOTLAND

YEAR OF SURVEY: 1997

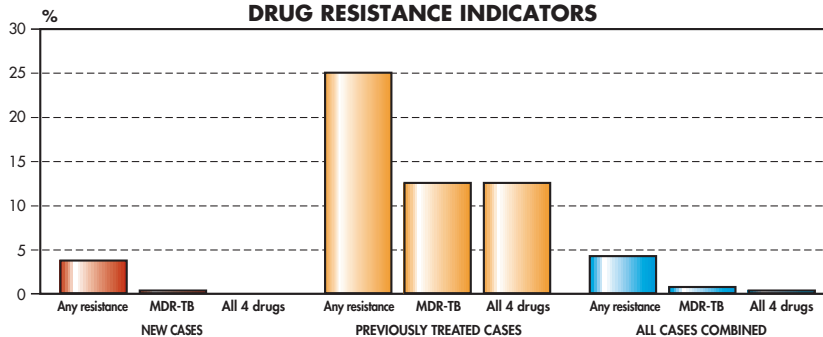
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 5 213 700 • World Bank Income Category: High-income • Tuberculosis case notification: 8.3/100 000 • Tuberculosis estimated incidence: 8.3/100 000 • Notified incidence of new sputum smear positive TB: 335 cases 6.4/100 000 • Treatment success: Not available • Previously treated cases: Not available • MTB/HIV estimated co-infection rate: 6.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1969 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|---------------------------------------------------|
| Target Area: Country-wide | Culture Media: Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 100.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	299	100	8	100	307	100
SUSCEPTIBLE TO ALL 4 DRUGS	288	96.3	6	75.0	294	95.8
ANY RESISTANCE	11	3.7	2	25.0	13	4.2
- Isoniazid (INH)	11	3.7	2	25.0	13	4.2
- Rifampicin (RMP)	1	.3	1	12.5	2	.7
- Ethambutol (EMB)	0	.0	1	12.5	1	.3
- Streptomycin (SM)	1	.3	1	12.5	2	.7
MONORESISTANCE	9	3.0	1	12.5	10	3.3
- Isoniazid (INH)	9	3.0	1	12.5	10	3.3
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	0	.0	0	.0	0	.0
MULTIDRUG RESISTANCE	1	.3	1	12.5	2	.7
- INH + RMP	1	.3	0	0	1	.3
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	0	.0	1	12.5	1	.3
OTHER PATTERNS	1	.3	0	.0	1	.3
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	1	.3	0	.0	1	.3
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	288	96.3	6	75.0	294	95.8
- 1	9	3.0	1	12.5	10	3.3
- 2	2	.7	0	.0	2	.7
- 3	0	.0	0	.0	0	.0
- 4	0	.0	1	12.5	1	.3

SIERRA LEONE

YEAR OF SURVEY: **1997**

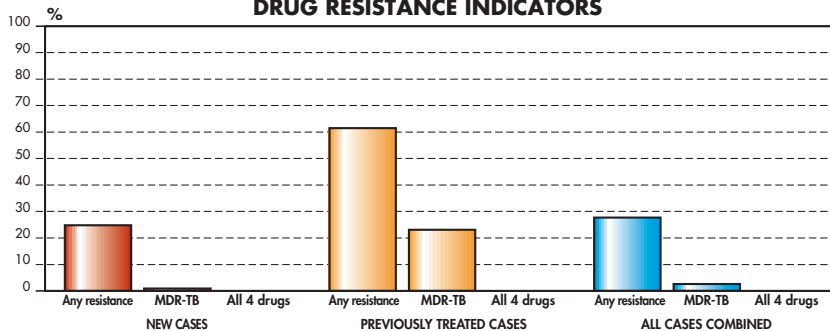
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 4 600 000 • World Bank Income Category: Low-income • Tuberculosis case notification: 76.6/100 000 • Tuberculosis estimated incidence: 315.0/100 000 • Notified incidence of new sputum smear positive TB: 2 296 cases 49.9/100 000 • Treatment success: 78% • Previously treated cases: 7.9% of all patients registered • MTB/HIV estimated co-infection rate: 517.0/100 000 • HIV-positive TB cases: 10% | <ul style="list-style-type: none"> • WHO Control Category: 3 • Year N.T.P. was established: 1990 • Year of Rifampicin Introduction: 1990 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------------|-------------------------------------------------------|
| Target Area: Nearly country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Random | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 15% | Laboratory accuracy: 95.0% |
| Study duration: 6 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	117	100	13	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	88	75.2	5	38.5		72.3
ANY RESISTANCE	29	24.8	8	61.5		27.7
- Isoniazid (INH)	12	10.3	8	61.5		14.3
- Rifampicin (RMP)	1	.9	3	23.1		2.6
- Ethambutol (EMB)	0	.0	1	7.7		.6
- Streptomycin (SM)	25	21.4	3	23.1		21.5
MONORESISTANCE	21	17.9	4	30.8		19.0
- Isoniazid (INH)	4	3.4	4	30.8		5.6
- Rifampicin (RMP)	0	.0	0	.0		.0
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	17	14.5	0	.0		13.4
MULTIDRUG RESISTANCE	1	.9	3	23.1		2.6
- INH + RMP	0	.0	0	.0		.0
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	1	.9	3	23.1		2.6
- INH + RMP + EMB + SM	0	.0	0	.0		.0
OTHER PATTERNS	7	6.0	1	7.7		6.0
- INH + EMB	0	.0	1	7.7		.6
- INH + SM	7	6.0	0	.0		5.5
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	88	75.2	5	38.5		72.3
- 1	21	17.9	4	30.8		19.0
- 2	7	6.0	1	7.7		6.1
- 3	1	.9	3	23.1		2.6
- 4	0	.0	0	.0		.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

SINGAPORE

YEAR OF SURVEY: **1996**

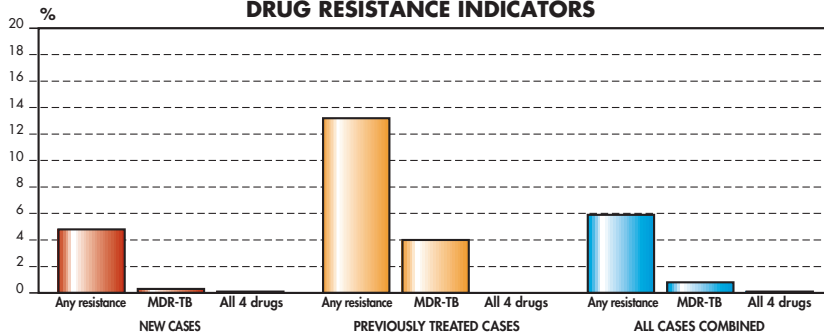
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 3 044 300 • World Bank Income Category: High-income • Tuberculosis case notification: 64.1/100 000 • Tuberculosis estimated incidence: 48.0/100 000 • Notified incidence of new sputum smear positive TB: 519 cases 17.0/100 000 • Treatment success: 83% • Previously treated cases: 13.2% of all patients registered • MTB/HIV estimated co-infection rate: 24.0/100 000 • HIV-positive TB cases: 1.0% | <ul style="list-style-type: none"> • WHO Control Category: 3 • Year N.T.P. was established: 1958 • Year of Rifampicin Introduction: 1975 • Standardized Regimens: No • Use of Short Course Chemotherapy: 45% • Use of Directly Observed Therapy: during 1st 2 months: Yes (15% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (% of patients not available) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen & Bactec |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Bactec |
| Sampling Fraction: 100% | Laboratory accuracy: 99.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	980	100	151	100	1 131	100
SUSCEPTIBLE TO ALL 4 DRUGS	933	95.2	131	86.8	1 064	94.1
ANY RESISTANCE	47	4.8	20	13.2	67	5.9
- Isoniazid (INH)	33	3.4	18	11.9	51	4.5
- Rifampicin (RMP)	4	.4	8	5.3	12	1.1
- Ethambutol (EMB)	3	.3	3	2.0	6	.5
- Streptomycin (SM)	19	1.9	3	2.0	22	1.9
MONORESISTANCE	39	4.0	9	6.0	48	4.2
- Isoniazid (INH)	25	2.6	8	5.3	33	2.9
- Rifampicin (RMP)	1	.1	1	.7	2	.2
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	13	1.3	0	.0	13	1.1
MULTIDRUG RESISTANCE	3	.3	6	4.0	9	.8
- INH + RMP	1	.1	5	3.3	6	.5
- INH + RMP + EMB	1	.1	1	.7	2	.2
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	1	.1	0	.0	1	.1
OTHER PATTERNS	5	.5	5	3.3	10	.9
- INH + EMB	0	.0	2	1.3	2	.2
- INH + SM	4	.4	2	1.3	6	.5
- INH + EMB + SM	1	.1	0	.0	1	.1
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	1	.7	1	.1
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	933	95.2	131	86.8	1 064	94.1
- 1	39	4.0	9	6.0	48	4.2
- 2	5	.5	10	6.6	15	1.3
- 3	2	.2	1	.7	3	.3
- 4	1	.1	0	.0	1	.1

SLOVAKIA

YEAR OF SURVEY: 1998

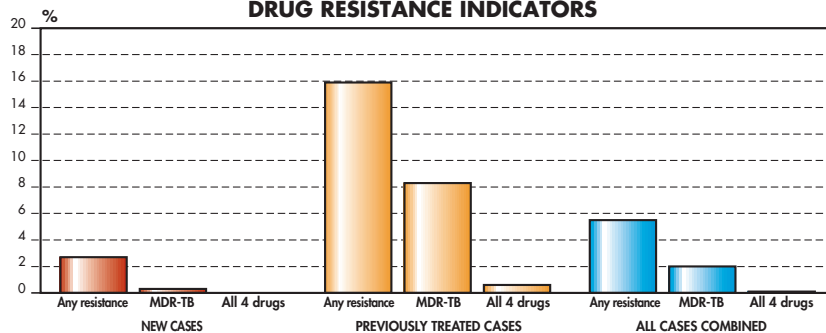
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **5 383 214**
- World Bank Income Category: **Upper-middle-income**
- Tuberculosis case notification: **24.3/100 000**
- Tuberculosis estimated incidence: **35.0/100 000**
- Notified incidence of new sputum smear positive TB: **396 cases 7.4/100 000**
- Treatment success: **85%**
- Previously treated cases: **3.4% of all patients registered**
- MTB/HIV estimated co-infection rate: **0/100 000**
- HIV-positive TB cases: **0%**
- WHO Control Category: **4**
- Year N.T.P. was established: **1982**
- Year of Rifampicin Introduction: **1972**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **78%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (90% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **No (0% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**Sampling Method: **All cases**Sampling Fraction: **100%**Study duration: **12 months**Culture Media: **Löwenstein-Jensen**Drug Susceptibility Testing Method: **Proportion**Laboratory accuracy: **94.0%**Rifampicin specificity: **90.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	589	100	157	100	746	100
SUSCEPTIBLE TO ALL 4 DRUGS	573	97.3	132	84.1	705	94.5
ANY RESISTANCE	16	2.7	25	15.9	41	5.5
- Isoniazid (INH)	12	2.0	17	10.8	29	3.9
- Rifampicin (RMP)	2	.3	16	10.2	18	2.4
- Ethambutol (EMB)	1	.2	8	5.1	9	1.2
- Streptomycin (SM)	6	1.0	7	4.5	13	1.7
MONORESISTANCE	12	2.0	7	4.5	19	2.5
- Isoniazid (INH)	8	1.4	5	3.2	13	1.7
- Rifampicin (RMP)	0	.0	2	1.3	2	.3
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	4	.7	0	.0	4	.5
MULTIDRUG RESISTANCE	2	.3	13	8.3	15	2.0
- INH + RMP	1	.2	4	2.5	5	.7
- INH + RMP + EMB	1	.2	6	3.8	7	.9
- INH + RMP + SM	0	.0	2	1.3	2	.3
- INH + RMP + EMB + SM	0	.0	1	.6	1	.1
OTHER PATTERNS	2	.3	5	3.2	7	.9
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	2	.3	4	2.5	6	.8
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	1	.6	1	.1
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	573	97.3	132	84.1	705	94.5
- 1	12	2.0	7	4.5	19	2.5
- 2	3	.5	9	5.7	12	1.6
- 3	1	.2	8	5.1	9	1.2
- 4	0	.0	1	.6	1	.1

SLOVENIA

YEAR OF SURVEY: 1997

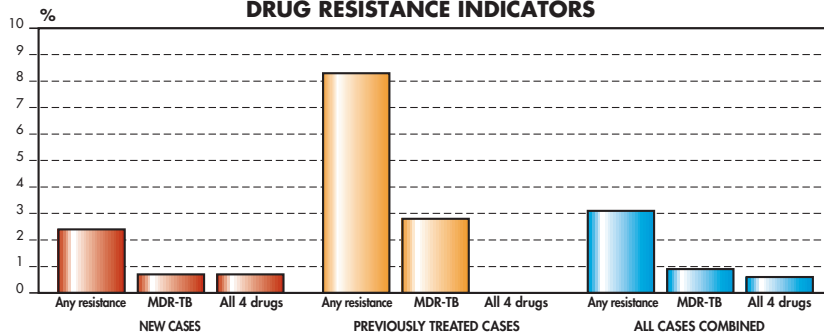
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **1 986 848**
- World Bank Income Category: **High-income**
- Tuberculosis case notification: **25.0/100 000**
- Tuberculosis estimated incidence: **30.0/100 000**
- Notified incidence of new sputum smear positive TB: **156 cases 7.9/100 000**
- Treatment success: **89%**
- Previously treated cases: **14.3% of all patients registered**
- MTB/HIV estimated co-infection rate: **1.0/100 000**
- HIV-positive TB cases: **1.0%**
- WHO Control Category: **4**
- Year N.T.P. was established: **1952**
- Year of Rifampicin Introduction: **1973**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **85%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (100% of patients)**
During continuation phase: **No**
- Use of Fixed Dose Combination: **Yes (30% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**Sampling Method: **All cases**Sampling Fraction: **100%**Study duration: **12 months**Culture Media: **Löwenstein-Jensen**Drug Susceptibility Testing Method: **Proportion**Laboratory accuracy: **100.0%**Rifampicin specificity: **100.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	290	100	36	100	326	100
SUSCEPTIBLE TO ALL 4 DRUGS	283	97.6	33	91.7	316	96.9
ANY RESISTANCE	7	2.4	3	8.3	10	3.1
- Isoniazid (INH)	3	1.0	2	5.6	5	1.5
- Rifampicin (RMP)	2	.7	1	2.8	3	.9
- Ethambutol (EMB)	2	.7	0	.0	2	.6
- Streptomycin (SM)	6	2.1	1	2.8	7	2.1
MONORESISTANCE	5	1.7	2	5.6	7	2.1
- Isoniazid (INH)	1	.3	1	2.8	2	.6
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	4	1.4	1	2.8	5	1.5
MULTIDRUG RESISTANCE	2	.7	1	2.8	3	.9
- INH + RMP	0	.0	1	2.8	1	.3
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	2	.7	0	.0	2	.6
OTHER PATTERNS	0	.0	0	.0	0	.0
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	0	.0	0	.0	0	.0
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	283	97.6	33	91.7	316	96.9
- 1	5	1.7	2	5.6	7	2.1
- 2	0	.0	1	2.8	1	.3
- 3	0	.0	0	.0	0	.0
- 4	2	.7	0	.0	2	.6

SOUTH AFRICA (Mpumalanga Province)

YEAR OF SURVEY: **1997**

PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **3 020 000**
- World Bank Income Category: **Upper-middle-income**
- Tuberculosis case notification: **120.0/100 000**
- Tuberculosis estimated incidence: **208.0/100 000**
- Notified incidence of new sputum smear positive TB: **2 994 cases 99.1/100 000**
- Treatment success: **78%**
- Previously treated cases: **15.5% of all patients registered**
- MTB/HIV estimated co-infection rate: **2540.0/100 000**
- HIV-positive TB cases: **45%**
- WHO Control Category: **3**
- Year N.T.P. was established: **1982**
- Year of Rifampicin Introduction: **1979**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **100%**
- Use of Directly Observed Therapy: during 1st 2 months: **Yes (70% of patients)**
During continuation phase: **Yes**
- Use of Fixed Dose Combination: **Yes (100% of patients)**
- Treatment In Private Sector: **Cat. 2**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Province**

Sampling Method: **Proportionate cluster**

Sampling Fraction: **43%**

Study duration: **6 months**

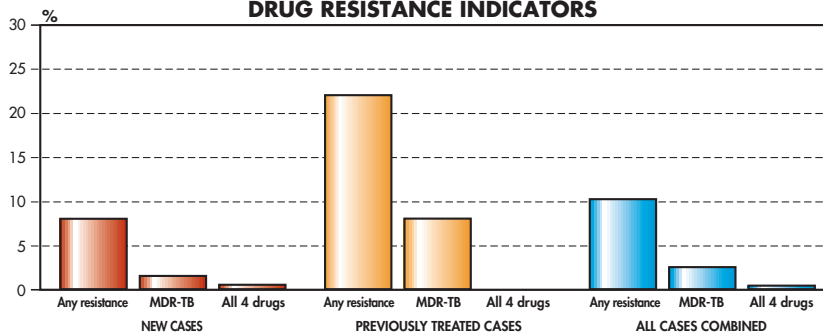
Culture Media: **Löwenstein-Jensen**

Drug Susceptibility Testing Method: **Proportion**

Laboratory accuracy: **89.0%**

Rifampicin specificity: **91.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	661	100	100	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	608	92.0	78	78.0		89.8
ANY RESISTANCE	53	8.0	22	22.0		10.2
- Isoniazid (INH)	37	5.6	16	16.0		7.2
- Rifampicin (RMP)	11	1.7	9	9.0		2.8
- Ethambutol (EMB)	3	.5	1	1.0		.5
- Streptomycin (SM)	25	3.8	7	7.0		4.3
MONORESISTANCE	39	5.9	11	11.0		6.7
- Isoniazid (INH)	23	3.5	5	5.0		3.7
- Rifampicin (RMP)	1	.2	1	1.0		.3
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	15	2.3	5	5.0		2.7
MULTIDRUG RESISTANCE	10	1.5	8	8.0		2.5
- INH + RMP	4	.6	8	8.0		1.8
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	3	.5	0	.0		.4
- INH + RMP + EMB + SM	3	.5	0	.0		.4
OTHER PATTERNS	4	.6	3	3.0		.5
- INH + EMB	0	.0	1	1.0		.2
- INH + SM	4	.6	2	2.0		.8
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	608	92.0	78	78.0		89.8
- 1	39	5.9	11	11.0		6.7
- 2	8	1.2	11	11.0		2.7
- 3	3	.5	0	.0		.4
- 4	3	.5	0	.0		.4

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

SPAIN (Barcelona)

YEAR OF SURVEY: **1997-98**

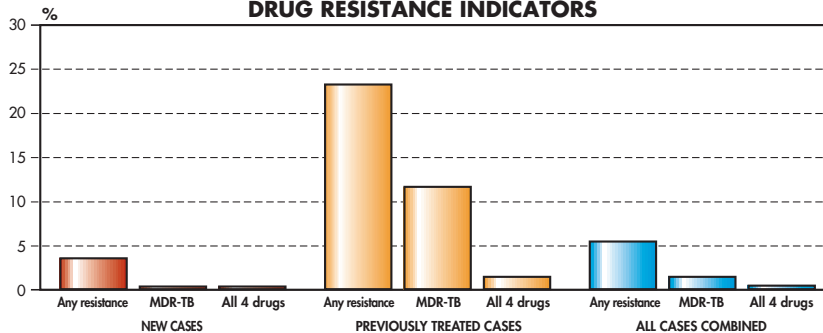
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 1 508 805 • World Bank Income Category: High-income • Tuberculosis case notification: 48.5/100 000 • Tuberculosis estimated incidence: 49.0/100 000 • Notified incidence of new sputum smear positive TB: 279 cases 18.5/100 000 • Treatment success: 75% • Previously treated cases: 9.7% of all patients registered • MTB/HIV estimated co-infection rate: 48.0/100 000 • HIV-positive TB cases: 20% | <ul style="list-style-type: none"> • WHO Control Category: 3 • Year N.T.P. was established: 1982 • Year of Rifampicin Introduction: 1968 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 90% • Use of Directly Observed Therapy: during 1st 2 months: Yes (20% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (90% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: City-wide	Culture Media: Löwenstein-Jensen & Bactec
Sampling Method: Cluster	Drug Susceptibility Testing Method: Proportion
Sampling Fraction: 59%	Laboratory accuracy: 95.0%
Study duration: 24 months	Rifampicin specificity: 100.0%

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	315	100	69	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	304	96.5	53	76.8		94.6
ANY RESISTANCE	11	3.5	16	23.2		5.4
- Isoniazid (INH)	7	2.2	15	21.7		4.1
- Rifampicin (RMP)	1	.3	8	11.6		1.4
- Ethambutol (EMB)	1	.3	4	5.8		.8
- Streptomycin (SM)	5	1.6	2	2.9		1.7
MONORESISTANCE	10	3.2	7	10.1		3.9
- Isoniazid (INH)	6	1.9	6	8.7		2.6
- Rifampicin (RMP)	0	.0	0	.0		.0
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	4	1.3	1	1.4		1.3
MULTIDRUG RESISTANCE	1	.3	8	11.6		1.4
- INH + RMP	0	.0	5	7.2		.7
- INH + RMP + EMB	0	.0	2	2.9		.3
- INH + RMP + SM	0	.0	0	.0		.0
- INH + RMP + EMB + SM	1	.3	1	1.4		.4
OTHER PATTERNS	0	.0	1	1.4		.0
- INH + EMB	0	.0	1	1.4		.1
- INH + SM	0	.0	0	.0		.0
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	0	.0	0	.0		.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	304	96.5	53	76.8		94.6
- 1	10	3.2	7	10.1		3.9
- 2	0	.0	6	8.7		.8
- 3	0	.0	2	2.9		.3
- 4	1	.3	1	1.4		.4

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

SWEDEN

YEAR OF SURVEY: **1997**

PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

- Population: **8 844 000**
- World Bank Income Category: **High-income**
- Tuberculosis case notification: **5.2/100 000**
- Tuberculosis estimated incidence: **5.0/100 000**
- Notified incidence of new sputum smear positive TB: **107 cases 1.2/100 000**
- Treatment success: **86%**
- Previously treated cases: **7.0% of all patients registered**
- MTB/HIV estimated co-infection rate: **4.0/100 000**
- HIV-positive TB cases: **0%**
- WHO Control Category: **5**
- Year N.T.P. was established: **Not available**
- Year of Rifampicin Introduction: **1970**
- Standardized Regimens: **Yes**
- Use of Short Course Chemotherapy: **Not available**
- Use of Directly Observed Therapy: during 1st 2 months: **No (0% of patients)**
During continuation phase: **No**
- Use of Fixed Dose Combination: **No (0% of patients)**
- Treatment In Private Sector: **Cat. 1**
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector

CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

Target Area: **Country-wide**

Sampling Method: **All cases**

Sampling Fraction: **100%**

Study duration: **12 months**

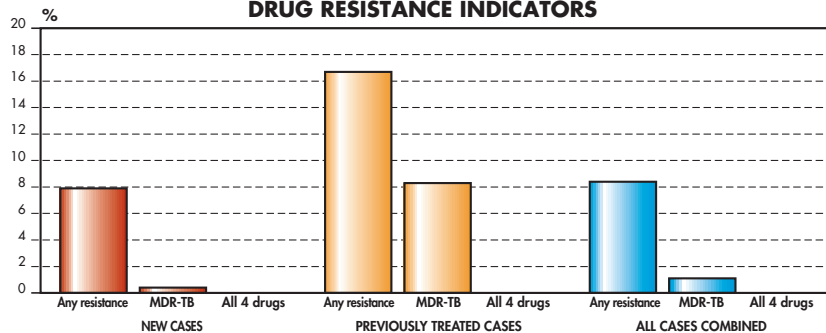
Culture Media: **Löwenstein-Jensen & Bactec**

Drug Susceptibility Testing Method: **Bactec**

Laboratory accuracy: **94.0%**

Rifampicin specificity: **100.0%**

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	356	100	24	100	380	100
SUSCEPTIBLE TO ALL 4 DRUGS	328	92.1	20	83.3	348	91.6
ANY RESISTANCE	28	7.9	4	16.7	32	8.4
- Isoniazid (INH)	20	5.6	4	16.7	24	6.3
- Rifampicin (RMP)	2	.6	2	8.3	4	1.1
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	17	4.8	1	4.2	18	4.7
MONORESISTANCE	19	5.3	2	8.3	21	5.5
- Isoniazid (INH)	11	3.1	2	8.3	13	3.4
- Rifampicin (RMP)	0	.0	0	.0	0	.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	8	2.2	0	.0	8	2.1
MULTIDRUG RESISTANCE	2	.6	2	8.3	4	1.1
- INH + RMP	0	.0	1	4.2	1	.3
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	2	.6	1	4.2	3	.8
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	7	2.0	0	.0	7	1.8
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	7	2.0	0	.0	7	1.8
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	328	92.1	20	83.3	348	91.6
- 1	19	5.3	2	8.3	21	5.5
- 2	7	2.0	1	4.2	8	2.1
- 3	2	.6	1	4.2	3	.8
- 4	0	.0	0	.0	0	.0

SWITZERLAND

YEAR OF SURVEY: **1997**

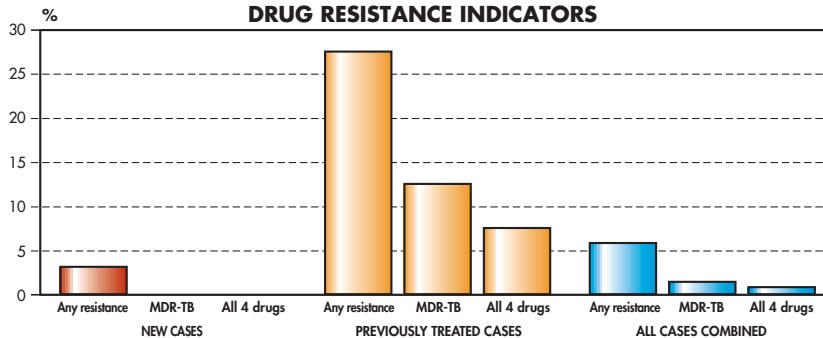
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 7 113 400 • World Bank Income Category: High-income • Tuberculosis case notification: 10.5/100 000 • Tuberculosis estimated incidence: 11.0/100 000 • Notified incidence of new sputum smear positive TB: 172 cases 2.4/100 000 • Treatment success: 79% • Previously treated cases: 17.0% of all patients registered • MTB/HIV estimated co-infection rate: 21.0/100 000 • HIV-positive TB cases: 25% | <ul style="list-style-type: none"> • WHO Control Category: 1 • Year N.T.P. was established: Not available • Year of Rifampicin Introduction: 1967 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 60% • Use of Directly Observed Therapy: during 1st 2 months: Yes (5% of patients)
During continuation phase: Not available • Use of Fixed Dose Combination: Yes (90% of patients) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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| Target Area: Country-wide | Culture Media: Various |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Various |
| Sampling Fraction: 100% | Laboratory accuracy: 98.8% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE*						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	322	100	40	100	362	100
SUSCEPTIBLE TO ALL 4 DRUGS	312	96.9	29	72.5	341	94.2
ANY RESISTANCE	10	3.1	11	27.5	21	5.8
- Isoniazid (INH)	9	2.8	10	25.0	19	5.2
- Rifampicin (RMP)	0	.0	6	15.0	6	1.7
- Ethambutol (EMB)	0	.0	4	10.0	4	1.1
- Pyrazinamide (PZA)	1	.3	4	10.0	5	1.4
MONORESISTANCE	10	3.1	5	12.5	15	4.1
- Isoniazid (INH)	9	2.8	4	10.0	13	3.6
- Rifampicin (RMP)	0	.0	1	2.5	1	.3
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Pyrazinamide (PZA)	1	.3	0	.0	1	.3
MULTIDRUG RESISTANCE	0	.0	5	12.5	5	1.4
- INH + RMP	0	.0	1	2.5	1	.3
- INH + RMP + PZA	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	1	2.5	1	.3
- INH + RMP + PZA + SM	0	.0	3	7.5	3	.8
OTHER PATTERNS	0	.0	1	2.5	1	.3
- INH + PZA	0	.0	1	2.5	1	.3
- INH + SM	0	.0	0	.0	0	.0
- INH + PZA + SM	0	.0	0	.0	0	.0
- RMP+ PZA	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + PZA + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	312	96.9	29	72.5	341	94.2
- 1	10	3.1	5	12.5	15	4.1
- 2	0	.0	2	5.0	2	.6
- 3	0	.0	1	2.5	1	.3
- 4	0	.0	3	7.5	3	.8

* No testing for Streptomycin but testing for Pyrazinamide

THAILAND

YEAR OF SURVEY: **1996-97**

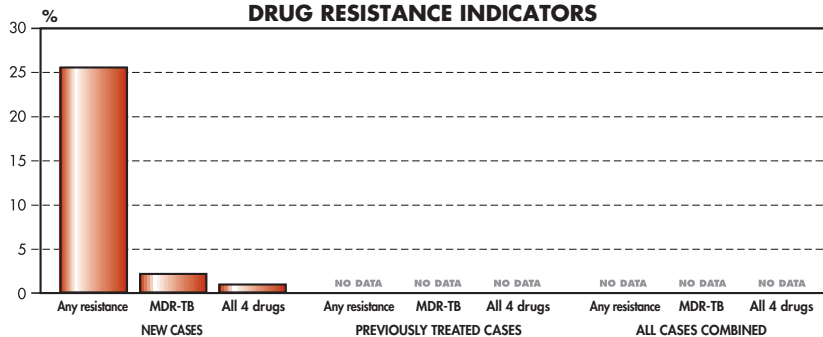
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 59 460 000 • World Bank Income Category: Lower-middle-income • Tuberculosis case notification: 51.2/100 000 • Tuberculosis estimated incidence: 142.0/100 000 • Notified incidence of new sputum smear positive TB: 13 214 cases 22.2/100 000 • Treatment success: 74% • Previously treated cases: 10.7% of all patients registered • MTB/HIV estimated co-infection rate: 561.0/100 000 • HIV-positive TB cases: 10% | <ul style="list-style-type: none"> • WHO Control Category: 2 • Year N.T.P. was established: 1966 • Year of Rifampicin Introduction: 1985 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: No (0% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (20% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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| <p>Target Area: Country-wide</p> <p>Sampling Method: Proportionate cluster</p> <p>Sampling Fraction: 13%</p> <p>Study duration: 12 months</p> | <p>Culture Media: Löwenstein-Jensen</p> <p>Drug Susceptibility Testing Method: Proportion</p> <p>Laboratory accuracy: 91.0%</p> <p>Rifampicin specificity: 97.0%</p> |
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DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE*						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	1 137	100				
SUSCEPTIBLE TO ALL 4 DRUGS	847	74.5				
ANY RESISTANCE	290	25.5				
- Isoniazid (INH)	142	12.5				
- Rifampicin (RMP)	66	5.8				
- Ethambutol (EMB)	91	8.0				
- Streptomycin (SM)	127	11.2				
MONORESISTANCE	191	16.8				
- Isoniazid (INH)	70	6.2				
- Rifampicin (RMP)	23	2.0				
- Ethambutol (EMB)	34	3.0				
- Streptomycin (SM)	64	5.6				
MULTIDRUG RESISTANCE	24	2.1				
- INH + RMP	6	.5				
- INH + RMP + EMB	7	.6				
- INH + RMP + SM	1	.1				
- INH + RMP + EMB + SM	10	.9				
OTHER PATTERNS	75	6.6				
- INH + EMB	11	1.0				
- INH + SM	30	2.6				
- INH + EMB + SM	7	.6				
- RMP + EMB	12	1.1				
- RMP + SM	5	.4				
- RMP + EMB + SM	2	.2				
- EMB + SM	8	.7				
NUMBER OF DRUGS RESISTANT TO:						
- 0	847	74.5				
- 1	191	16.8				
- 2	72	6.3				
- 3	17	1.5				
- 4	10	.9				

* Final data (preliminary data in 1st monograph)

UGANDA (GLRA Supported Zones*)

YEAR OF SURVEY: 1996-97

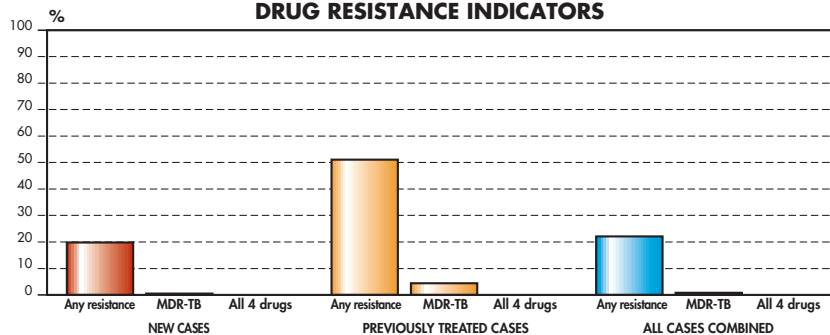
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 9 919 700 • World Bank Income Category: Low-income • Tuberculosis case notification: 87.0/100 000 • Tuberculosis estimated incidence: 320.0/100 000 • Notified incidence of new sputum smear positive TB: 5 405 cases 54.5/100 000 • Treatment success: 61% • Previously treated cases: 7.3% of all patients registered • MTB/HIV estimated co-infection rate: 1532.0/100 000 • HIV-positive TB cases: 50% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1990 • Year of Rifampicin Introduction: 1990 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (100% of patients)
During continuation phase: No • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 1
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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| <p>Target Area: GLRA supported zones *</p> <p>Sampling Method: Cluster</p> <p>Sampling Fraction: 3%</p> <p>Study duration: 18 months</p> | <p>Culture Media: Löwenstein-Jensen</p> <p>Drug Susceptibility Testing Method: Proportion</p> <p>Laboratory accuracy: 98.0%</p> <p>Rifampicin specificity: 100.0%</p> |
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DRUG RESISTANCE INDICATORS



* German Leprosy Relief Association (TB estimates are country-wide, reported cases are regional)

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	374	100	45	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	300	80.2	22	48.9		77.9
ANY RESISTANCE	74	19.8	23	51.1		22.1
- Isoniazid (INH)	25	6.7	17	37.8		9.0
- Rifampicin (RMP)	3	.8	2	4.4		1.1
- Ethambutol (EMB)	23	6.1	5	11.1		6.5
- Streptomycin (SM)	50	13.4	10	22.2		14.0
MONORESISTANCE	48	12.8	13	28.9		14.0
- Isoniazid (INH)	12	3.2	8	17.8		4.3
- Rifampicin (RMP)	1	.3	0	.0		.2
- Ethambutol (EMB)	9	2.4	3	6.7		2.7
- Streptomycin (SM)	26	7.0	2	4.4		6.8
MULTIDRUG RESISTANCE	2	.5	2	4.4		.8
- INH + RMP	1	.3	1	2.2		.4
- INH + RMP + EMB	1	.3	0	.0		.2
- INH + RMP + SM	0	.0	1	2.2		.2
- INH + RMP + EMB + SM	0	.0	0	.0		.0
OTHER PATTERNS	24	6.4	8	17.8		7.1
- INH + EMB	0	.0	1	2.2		.2
- INH + SM	11	2.9	6	13.3		3.7
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	0	.0	0	.0		.0
- RMP + EMB + SM	0	.0	0	.0		.0
- EMB + SM	13	3.5	1	2.2		3.4
NUMBER OF DRUGS RESISTANT TO:						
- 0	300	80.2	22	48.9		77.9
- 1	48	12.8	13	28.9		14.0
- 2	25	6.7	9	20.0		7.7
- 3	1	.3	1	2.2		.4
- 4	0	.0	0	.0		.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

UNITED STATES OF AMERICA

YEAR OF SURVEY: **1997**

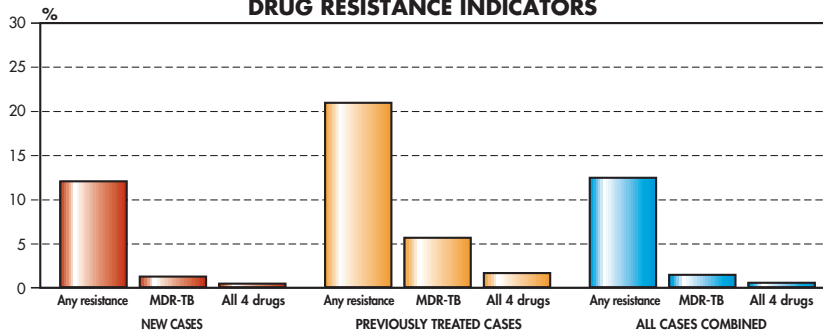
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 267 636 000 • World Bank Income Category: High-income • Tuberculosis case notification: 7.4/100 000 • Tuberculosis estimated incidence: 7.0/100 000 • Notified incidence of new sputum smear positive TB: 6 882 cases 2.6/100 000 • Treatment success: 91% • Previously treated cases: 3.5% of all patients registered • MTB/HIV estimated co-infection rate: 21.0/100 000 • HIV-positive TB cases: 20% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1953 • Year of Rifampicin Introduction: 1971 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 95% • Use of Directly Observed Therapy: during 1st 2 months: Yes (22% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (% of patients not available) • Treatment In Private Sector: Cat. 3
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

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|-----------------------------------|----------------------------------------------------|
| Target Area: Country-wide | Culture Media: Various |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Various |
| Sampling Fraction: 100% | Laboratory accuracy: 92.0% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	12 063	100	612	100	12 675	100
SUSCEPTIBLE TO ALL 4 DRUGS	10 618	88.0	484	79.1	11 102	87.6
ANY RESISTANCE	1 445	12.0	128	20.9	1 573	12.4
- Isoniazid (INH)	962	8.0	94	15.4	1 056	8.3
- Rifampicin (RMP)	206	1.7	49	8.0	255	2.0
- Ethambutol (EMB)	193	1.6	25	4.1	218	1.7
- Streptomycin (SM)	710	5.9	51	8.3	761	6.0
MONORESISTANCE	1 004	8.3	72	11.8	1 076	8.5
- Isoniazid (INH)	536	4.4	39	6.4	575	4.5
- Rifampicin (RMP)	52	.4	14	2.3	66	.5
- Ethambutol (EMB)	56	.5	4	.7	60	.5
- Streptomycin (SM)	360	3.0	15	2.5	375	3.0
MULTIDRUG RESISTANCE	146	1.2	34	5.6	180	1.4
- INH + RMP	37	.3	13	2.1	50	.4
- INH + RMP + EMB	26	.2	6	1.0	32	.3
- INH + RMP + SM	29	.2	5	.8	34	.3
- INH + RMP + EMB + SM	54	.4	10	1.6	64	.5
OTHER PATTERNS	295	2.4	22	3.6	317	2.5
- INH + EMB	24	.2	1	.2	25	.2
- INH + SM	234	1.9	17	2.8	251	2.0
- INH + EMB + SM	22	.2	3	.5	25	.2
- RMP + EMB	4	.0	0	.0	4	.0
- RMP + SM	4	.0	0	.0	4	.0
- RMP + EMB + SM	0	.0	1	.2	1	.0
- EMB + SM	7	.1	0	.0	7	.1
NUMBER OF DRUGS RESISTANT TO:						
- 0	10 618	88.0	484	79.1	11 102	87.6
- 1	1 004	8.3	72	11.8	1 076	8.5
- 2	210	2.6	31	5.1	341	2.7
- 3	77	.6	15	2.5	92	.7
- 4	54	.4	10	1.6	64	.5

URUGUAY

YEAR OF SURVEY: **1997**

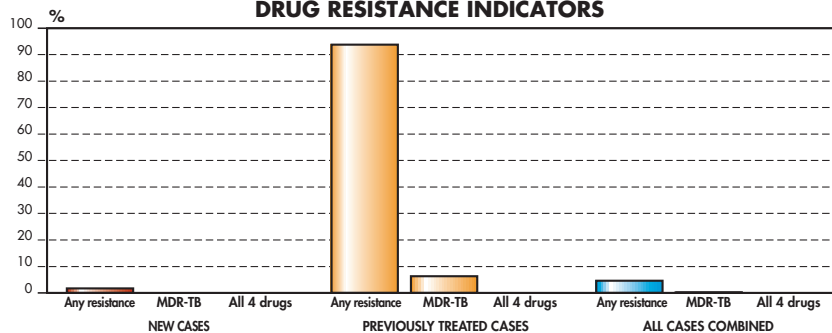
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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| <ul style="list-style-type: none"> • Population: 3 170 154 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 22.0/100 000 • Tuberculosis estimated incidence: 31.0/100 000 • Notified incidence of new sputum smear positive TB: 423 cases 13.3/100 000 • Treatment success: 86% • Previously treated cases: 6.5% of all patients registered • MTB/HIV estimated co-infection rate: 32.0/100 000 • HIV-positive TB cases: 2.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1980 • Year of Rifampicin Introduction: 1970 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (87% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: No (0% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: All cases | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 97.5% |
| Study duration: 12 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined	
	N	%	N	%	N	%
Total number of strains tested	484	100	16	100	500	100
SUSCEPTIBLE TO ALL 4 DRUGS	476	98.3	1	6.3	477	95.4
ANY RESISTANCE	8	1.7	15	93.8	23	4.6
- Isoniazid (INH)	2	.4	13	81.3	15	3.0
- Rifampicin (RMP)	2	.4	3	18.8	5	1.0
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	4	.8	1	6.3	5	1.0
MONORESISTANCE	8	1.7	13	81.3	21	4.2
- Isoniazid (INH)	2	.4	11	68.8	13	2.6
- Rifampicin (RMP)	2	.4	2	12.5	4	.8
- Ethambutol (EMB)	0	.0	0	.0	0	.0
- Streptomycin (SM)	4	.8	0	.0	4	.8
MULTIDRUG RESISTANCE	0	.0	1	6.3	1	.2
- INH + RMP	0	.0	1	6.3	1	.2
- INH + RMP + EMB	0	.0	0	.0	0	.0
- INH + RMP + SM	0	.0	0	.0	0	.0
- INH + RMP + EMB + SM	0	.0	0	.0	0	.0
OTHER PATTERNS	0	.0	1	6.3	1	.2
- INH + EMB	0	.0	0	.0	0	.0
- INH + SM	0	.0	1	6.3	1	.2
- INH + EMB + SM	0	.0	0	.0	0	.0
- RMP + EMB	0	.0	0	.0	0	.0
- RMP + SM	0	.0	0	.0	0	.0
- RMP + EMB + SM	0	.0	0	.0	0	.0
- EMB + SM	0	.0	0	.0	0	.0
NUMBER OF DRUGS RESISTANT TO:						
- 0	476	98.3	1	6.3	477	95.4
- 1	8	1.7	13	81.3	21	4.2
- 2	0	.0	2	12.5	2	.4
- 3	0	.0	0	.0	0	.0
- 4	0	.0	0	.0	0	.0

VENEZUELA

YEAR OF SURVEY: **1998***

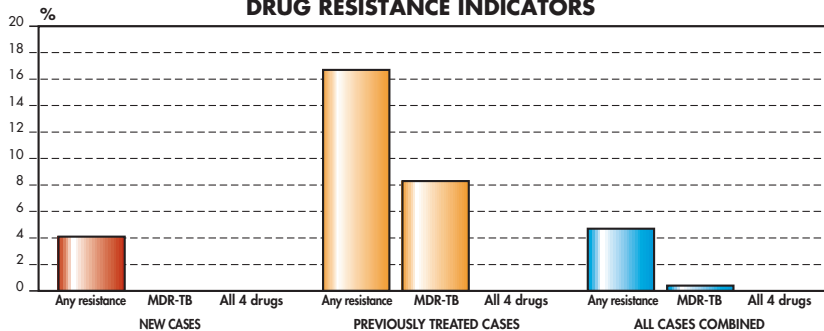
PROFILE OF THE COUNTRY AND ITS CONTROL PROGRAMME

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Population: 23 242 435 • World Bank Income Category: Upper-middle-income • Tuberculosis case notification: 26.3/100 000 • Tuberculosis estimated incidence: 42.0/100 000 • Notified incidence of new sputum smear positive TB: 3 450 cases 14.8/100 000 • Treatment success: 80% • Previously treated cases: 5.2% of all patients registered • MTB/HIV estimated co-infection rate: 88.0/100 000 • HIV-positive TB cases: 3.0% | <ul style="list-style-type: none"> • WHO Control Category: 4 • Year N.T.P. was established: 1936 • Year of Rifampicin Introduction: 1982 • Standardized Regimens: Yes • Use of Short Course Chemotherapy: 100% • Use of Directly Observed Therapy: during 1st 2 months: Yes (80% of patients)
During continuation phase: Yes • Use of Fixed Dose Combination: Yes (100% of patients) • Treatment In Private Sector: Cat. 2
Category 1: virtually all TB patients public sector
Category 2: <15% in private sector
Category 3: 15% or more in private sector |
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CHARACTERISTICS OF THE SURVEY/SURVEILLANCE PROGRAMME

- | | |
|-----------------------------------------------|-------------------------------------------------------|
| Target Area: Country-wide | Culture Media: Löwenstein-Jensen |
| Sampling Method: Proportionate cluster | Drug Susceptibility Testing Method: Proportion |
| Sampling Fraction: 100% | Laboratory accuracy: 89.7% |
| Study duration: 6 months | Rifampicin specificity: 100.0% |

DRUG RESISTANCE INDICATORS



* Preliminary

PREVALENCE OF DRUG RESISTANCE						
	New cases		Previously treated cases		Combined*	
	N	%	N	%	N	%
Total number of strains tested	221	100	24	100		100
SUSCEPTIBLE TO ALL 4 DRUGS	212	95.9	20	83.3		95.3
ANY RESISTANCE	9	4.1	4	16.7		4.7
- Isoniazid (INH)	4	1.8	3	12.5		2.4
- Rifampicin (RMP)	1	.5	3	12.5		1.1
- Ethambutol (EMB)	1	.5	1	4.2		.6
- Streptomycin (SM)	6	2.7	1	4.2		2.8
MONORESISTANCE	6	2.7	1	4.2		2.8
- Isoniazid (INH)	3	1.4	1	4.2		1.5
- Rifampicin (RMP)	0	.0	0	.0		.0
- Ethambutol (EMB)	0	.0	0	.0		.0
- Streptomycin (SM)	3	1.4	0	.0		1.3
MULTIDRUG RESISTANCE	0	.0	2	8.3		.4
- INH + RMP	0	.0	2	8.3		.4
- INH + RMP + EMB	0	.0	0	.0		.0
- INH + RMP + SM	0	.0	0	.0		.0
- INH + RMP + EMB + SM	0	.0	0	.0		.0
OTHER PATTERNS	3	1.4	1	4.2		1.3
- INH + EMB	0	.0	0	.0		.0
- INH + SM	1	.5	0	.0		.4
- INH + EMB + SM	0	.0	0	.0		.0
- RMP + EMB	0	.0	0	.0		.0
- RMP + SM	1	.5	0	.0		.4
- RMP + EMB + SM	0	.0	1	4.2		.2
- EMB + SM	1	.5	0	.0		.4
NUMBER OF DRUGS RESISTANT TO:						
- 0	212	95.9	20	83.3		95.3
- 1	6	2.7	1	4.2		2.8
- 2	3	1.4	2	8.3		1.7
- 3	0	.0	1	4.2		.2
- 4	0	.0	0	.0		.0

* Combined estimates were calculated from resistance among new and previously treated cases but weighted by the proportion of retreatment cases in the NTP

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