

Table 1. Response rate per Region
National survey of tuberculosis drug resistance in the Western Cape, 2001 - 2002

Region	Cases	
	Expected	Registered (%)*
Boland/Overberg	165	207 (125.5)
Cape Metropole	409	292 (71.4)
Southern Cape/Karoo	183	234 (127.9)
West Coast/Winelands	164	60 (36.6)
Total	921	793 (86.1)

* Total of 762 culture-confirmed patients required

**Table 2. Treatment history of suspect cases by Region
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

Region	Treatment history*						
	No history of prior treatment		History of prior treatment		History unknown		Total
	n	%	n	%	n	%	n
Boland/Overberg	517	59.6	332	38.3	18	2.1	867
Cape Metropole	886	62.7	492	34.8	35	2.5	1413
Southern Cape/Karoo	738	70.0	307	29.1	9	0.9	1054
West Coast/Winelands	404	65.9	202	33.0	7	1.1	613
Total	2545	64.5	1333	33.8	69	1.7	3947

* According to patient and/or record

**Table 3. Case detection (microscopy and culture) by Region
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

Region	No of suspects*	Microscopy			Culture		
		Smears done**	Smears positive		Cultures done***	Cultures positive	
			n	%		n	%
Boland/Overberg	867	850	194	22.8	746	207	27.7
Cape Metropole	1413	1391	293	21.1	1222	292	23.9
Southern Cape/Karoo	1054	1042	225	21.6	902	234	25.9
West Coast/Winelands	613	602	71	11.8	487	60	12.3
Total	3947	3885	783	20.2	3357	793	23.6

* All specimens received

** Excludes smears unreadable

*** Excludes cultures contaminated/not done

Ratio of suspects : smear-positive cases = 4.96 : 1.00

Ratio of suspects : culture-positive cases = 4.23 : 1.00

**Table 4. Demographic profile of culture-confirmed tuberculosis patients (N = 655)
National survey of tuberculosis drug resistance in the Western Cape, 2001 - 2002**

Demographics		n	%
Gender	Male	458	69.9
	Female	197	30.1
	Unknown	0	0
Age group (years)	0 - 14	8	1.2
	15 - 24	111	16.9
	25 - 34	205	31.3
	35 - 44	209	31.9
	45 - 54	87	13.3
	55 - 64	24	3.7
	65 - 99	7	1.1
	Unknown	4	0.6
History of prior TB treatment*	No	418	63.8
	Yes	228	34.8
	Unknown	9	1.4
	<i>Retreatment RC</i>	105	46.1
	<i>RF</i>	5	2.2
	<i>RI</i>	35	15.4
	<i>RT</i>	43	18.9
<i>Unknown</i>	40	17.5	
History of incarceration	No	510	77.9
	Currently	4	0.6
	Previously	130	19.8
	Unknown	11	1.7

* According to patient and/or record

Retreatment categories

RC = after cure

RF = after failure

RI = after interruption

RT = after treatment completion

**Table 5. Microscopy and culture results (all specimens)
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

Microscopy	n	%
Negative	3102	78.6
Positive	783	19.8
Not done	62	1.6
Total	3947	100.0
Culture		
Culture	n	%
Negative	2564	65.0
<i>Mycobacterium tuberculosis</i>	655	16.6
MOTT*	0	0.0
Identification not possible	138	3.5
Contaminated	590	14.9
Total	3947	100.0

* Mycobacteria other than *M. tuberculosis*

**Table 6. Grading of bacteriology results (confirmed *M. tuberculosis* strains)
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

Microscopy		n	%
Grading	Negative	99	15.1
	2 - 9 AFB* per 100 fields	55	8.4
	10 - 99 AFB per 100 fields (1+)	140	21.4
	10 - 99 AFB in 50 fields (2+)	133	20.3
	More than 10 AFB per field in 20 fields (3+)	217	33.1
	Not done	11	1.7
Total		655	100.0
Culture			
Culture		n	%
Grading	2 - 19 colonies	119	18.2
	20 - 99 colonies (1+)	51	7.8
	100 - 200 colonies (2+)	60	9.2
	Innumerable, discrete (3+)	405	61.8
	Confluent colonies (4+)	20	3.1
	Total	655	100.0

* AFB = Acid Fast Bacilli

**Table 7. Comparison of microscopy and culture results (all specimens)
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

		Culture results		Total	
		Positive (%)	Negative (%)	n	(%)
Microscopy results	Positive (%)	658 (84.5)	28 (1.1)	686	(20.7)
	Negative (%)	121 (15.5)	2501 (98.9)	2622	(79.3)
Total		779 (100.0)	2529 (100.0)	3308	(100.0)

Proportion of culture-confirmed cases

smear-positive: 84.5%
smear negative: 15.5%

**Table 8. History of prior tuberculosis treatment and number of resistant drugs (confirmed *M. tuberculosis* strains)
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

Resistance to	Treatment history						Total		
	No history of prior treatment*			History of prior treatment*			n	%	95% CI
	n	%	95% CI	n	%	95% CI			
1 drug	13	3.0	1.3 – 6.6	8	3.5	1.1 – 9.3	21	3.2	1.7 – 5.9
2 drugs	10	2.3	0.9 – 5.7	5	2.2	0.5 – 7.5	15	2.3	1.0 – 4.7
3 drugs	1	0.2	0.0 – 2.6	3	1.3	0.2 – 6.2	4	0.6	0.1 – 2.4
4 drugs	0	0.0	0.0 – 2.2	2	0.9	0.0 – 5.5	2	0.3	0.0 – 2.0
No resistance	403	94.4	90.1 – 96.9	210	92.1	85.1 – 96.1	613	93.6	90.2 – 95.9
Total	427	100.0		228	100.0		655	100.0	

* Prior treatment according to patient and/or record

Table 9. Antituberculosis drug resistance
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002

	No history of prior treatment*			History of prior treatment*		
	n	%	(95% CI)	n	%	(95% CI)
Total tested	427	100.0		228	100.0	
Fully susceptible	403	94.4	(90.1 – 96.9)	210	92.1	(85.1 – 96.1)
Any resistance	24	5.6	(3.1 – 9.9)	18	7.9	(3.9 – 14.9)
Mono-resistance						
H	11	2.6	(1.0 – 6.0)	5	2.2	(0.5 – 7.5)
R	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
E	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
S	2	0.5	(0.0 – 3.0)	3	1.3	(0.2 – 6.2)
H+R resistance						
HR	3	0.7	(0.1 – 3.4)	4	1.8	(0.3 – 6.8)
HRE	0	0.0	(0.0 – 2.2)	1	0.4	(0.0 – 4.8)
HRS	1	0.2	(0.0 – 2.6)	2	0.9	(0.0 – 5.5)
HRSE	0	0.0	(0.0 – 2.2)	2	0.9	(0.0 – 5.5)
H+ other resistance						
HE	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
HS	7	1.6	(0.5 – 4.7)	1	0.4	(0.0 – 4.8)
HES	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
R+ other resistance						
RE	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
RS	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
RES	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
Other multi-resistance						
ES	0	0.0	(0.0 – 2.2)	0	0.0	(0.0 – 4.1)
Any H resistance	22	5.2	(2.7 – 9.3)	15	6.6	(3.0 – 13.2)
Any R resistance	4	0.9	(0.2 – 3.7)	9	3.9	(1.4 – 9.9)
Any E resistance	0	0.0	(0.0 – 2.2)	3	1.3	(0.2 – 6.2)
Any S resistance	10	2.3	(0.9 – 5.7)	8	3.5	(1.1 – 9.3)

* Prior treatment according to patient and/or record

**Table 10. Prevalence of resistance among retreatment patient categories
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002**

Patient category	Total	Fully susceptible		Any resistance		MDR	
		n	%	n	%	n	%
RC	105	97	92.4	8	7.6	2	1.9
RF	5	5	100.0	0	0.0	0	0.0
RI	35	33	94.3	2	5.7	0	0.0
RT	43	37	86.0	6	14.0	5	11.6
Unknown	40	38	95.0	2	5.0	2	5.0
Total	228	210	92.1	18	7.9	9	3.9

RC = Retreatment after cure
 RF = Retreatment after failure
 RI = Retreatment after interruption
 RT = Retreatment after completion

Any resistance among
 Unfavourable outcome = 5.0%
 Favourable outcome = 9.5%

MDR among
 Unfavourable outcome = 0.0%
 Favourable outcome = 4.7%

Table 11. Estimated MDR tuberculosis case load, 2001
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002

	Worst case scenario	Best case scenario
Estimated number of total cases	38992	21344
Proportion retreatment cases	34.8%	34.8%
Proportion new cases	65.2%	65.2%
Estimated number of:		
New cases	25377	13916
Retreatment cases	13545	7428
MDR Prevalence		
New MDR cases	0.9%	0.9%
Retreatment MDR cases	4.0%	4.0%
Estimated number of:		
New MDR cases	228	125
Retreatment MDR cases	542	297
Total number of MDR cases expected	770	422

Table 12. HIV status of confirmed tuberculosis patients by gender, previous treatment and drug resistance (N = 411)
National survey of tuberculosis drug resistance in the Western Cape, 2001 – 2002

HIV status	Gender							
	Male		Female				Total	
	n	%	n		%		n	%
Positive	75	26.1	41		33.1		116	28.2
Negative	212	73.9	83		66.9		295	71.8
Total	287	100.0	124		100.0		411	100.0
	Previous treatment for tuberculosis							
	No history of prior treatment		History of prior treatment		History of prior treatment unknown		Total	
	n	%	n	%	n	%	n	%
Positive	74	28.1	41	28.3	1	33.3	116	28.2
Negative	189	71.9	104	71.7	2	66.7	295	71.8
Total	263	100.0	145	100.0	3	100.0	411	100.0
	Drug resistance							
	Fully susceptible		Any resistance		MDR		Total	
	n	%	n	%	n	%	n	%
Positive	106	27.7	10	34.5	2	22.2	116	28.2
Negative	276	72.3	19	65.5	7	77.8	295	71.8
Total	382	100.0	29	100.0	9	100.0	411	100.0