

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

Region	Cases	
	Expected	Registered (%)*
West Rand	54	60 (111.1)
East Rand	203	235 (115.8)
Vaal	118	179 (151.7)
Pretoria	121	117 (96.7)
Central WITS	424	324 (76.4)
Total	920	915 (99.5)*

* Total of 762 culture-confirmed patients required

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

Region	Treatment history*						
	No history of prior treatment		History of prior treatment		History unknown		Total
	n	%	n	%	n	%	n
West Rand	143	70.8	52	25.7	7	3.5	202
East Rand	667	74.9	209	23.5	15	1.7	891
Vaal	321	69.5	128	27.7	13	2.8	462
Pretoria	338	70.1	139	28.8	5	1.0	482
Central WITS	759	70.5	291	27.0	27	2.5	1077
Total	2228	71.5	819	26.3	67	2.2	3114

* According to patient and/or record

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

Region	No of suspects*	Microscopy			Culture		
		Smears done**	Smears positive		Cultures done***	Cultures positive	
			n	%		n	%
West Rand	202	201	43	21.4	181	60	33.1
East Rand	891	889	185	20.8	812	235	28.9
Vaal	462	461	145	31.5	423	179	42.3
Pretoria	482	482	97	20.1	421	117	27.8
Central WITS	1077	1062	265	25.0	979	324	33.1
Total	3114	3095	735	23.7	2816	915	32.5

* All specimens received

** Excludes smears unreadable

*** Excludes cultures contaminated/not done

Ratio of suspects : smear-positive cases = 4.21 : 1.00

Ratio of suspects : culture-positive cases = 3.08 : 1.00

**Table 4. Demographic profile of culture-confirmed tuberculosis patients (n = 757)
National survey of tuberculosis drug resistance in Gauteng, 2001 - 2002**

Demographics		n	%
Gender	Male	469	62.0
	Female	288	38.0
Age group (years)	0 - 14	2	0.3
	15 - 24	103	13.6
	25 - 34	255	33.7
	35 - 44	237	31.3
	45 - 54	109	14.4
	55 - 64	39	5.2
	65 - 99	9	1.2
	Unknown	3	0.4
History of prior TB treatment*	No	584	77.1
	Yes	165	21.8
	Unknown	8	1.1
	Retreatment RC	70	42.4
	RF	1	0.6
	RI	27	16.4
	RT	42	25.5
Unknown	25	15.2	
History of incarceration	No	610	80.6
	Currently	6	0.8
	Previously	129	17.0
	Unknown	12	1.6

* 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 Gauteng, 2001 – 2002**

Microscopy	n	%
Negative	2360	75.8
Positive	735	23.6
Not done	19	0.6
Total	3114	100.0
Culture		
Culture	n	%
Negative	1901	61.0
<i>Mycobacterium tuberculosis</i>	757	24.3
MOTT*	7	0.2
Identification not possible	151	4.8
Contaminated	298	9.6
Total	3114	100.0

* Mycobacteria other than *M. tuberculosis*

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

Microscopy		n	%
Grading	Negative	200	26.4
	2 - 9 AFB* per 100 fields	46	6.1
	10 - 99 AFB per 100 fields (1+)	184	24.3
	10 - 99 AFB in 50 fields (2+)	123	16.2
	More than 10 AFB per field in 20 fields (3+)	200	26.4
	Not done	4	0.5
	Total	757	100.0
Culture			
Grading	2 - 19 colonies	177	23.4
	20 - 99 colonies (1+)	111	14.7
	100 – 200 colonies (2+)	148	19.6
	Innumerable, discrete (3+)	299	39.5
	Confluent colonies (4+)	22	2.9
	Total	757	100.0

* AFB = Acid Fast Bacilli

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

		Culture results		Total	
		Positive (%)	Negative (%)	n	(%)
Microscopy results	Positive (%)	654 (71.8)	30 (1.6)	684	(24.4)
	Negative (%)	257 (28.2)	1858 (98.4)	2115	(75.6)
Total		911 (100.0)	1888 (100.0)	2799	(100.0)

Proportion of culture-confirmed cases

smear-positive: 71.8%
smear negative: 28.2%

**Table 8. History of prior tuberculosis treatment and number of resistant drugs (confirmed *M. tuberculosis* strains)
National survey of tuberculosis drug resistance in Gauteng, 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	24	4.1	2.2 – 7.2	5	3.0	0.7 – 10.2	29	3.8	2.2 – 6.4
2 drugs	9	1.5	0.5 – 3.9	9	5.5	1.9 – 13.4	18	2.4	1.2 – 4.6
3 drugs	5	0.8	0.2 – 2.9	4	2.4	0.4 – 9.3	9	1.2	0.4 – 3.1
4 drugs	1	0.2	0.0 – 1.9	3	1.8	0.2 – 8.4	4	0.5	0.1 – 2.1
No resistance	553	93.4	89.8 – 95.9	144	87.3	77.7 – 93.3	697	92.1	88.8 – 94.5
Total	592	100.0		165	100.0		757	100.0	

* Prior treatment according to patient and/or record

Table 9. Antituberculosis drug resistance
National survey of tuberculosis drug resistance in Gauteng, 2001 – 2002

	No history of prior treatment*			History of prior treatment*		
	n	%	(95% CI)	n	%	(95% CI)
Total tested	592	100.0		165	100.0	
Fully susceptible	553	93.4	89.8 – 95.9	144	87.3	77.7 – 93.3
Any resistance	39	6.6	4.1 – 10.2	21	12.7	6.7 – 22.3
Mono-resistance						
H	11	1.9	0.7 – 4.4	1	0.6	0.0 – 6.6
R	2	0.3	0.0 – 2.2	0	0.0	0.0 – 5.5
E	0	0.0	0.0 – 1.6	0	0.0	0.0 – 5.5
S	11	1.9	0.7 – 4.4	4	2.4	0.4 – 9.3
H+R resistance						
HR	3	0.5	0.0 – 1.6	2	1.2	0.1 – 7.5
HRE	0	0.0	0.0 – 1.6	2	1.2	0.1 – 7.5
HRS	4	0.7	0.1 – 2.7	2	1.2	0.1 – 7.5
HRSE	1	0.2	0.0 – 1.9	3	1.8	0.2 – 8.4
H+ other resistance						
HE	0	0.0	0.1 – 2.4	2	1.2	0.1 – 7.5
HS	6	1.0	0.3 – 3.2	4	2.4	0.4 – 9.3
HES	1	0.2	0.0 – 1.9	0	0.0	0.0 – 5.5
R+ other resistance						
RE	0	0.0	0.0 – 1.6	1	0.6	0.0 – 6.6
RS	0	0.0	0.0 – 1.6	0	0.0	0.0 – 5.5
RES	0	0.0	0.0 – 1.6	0	0.0	0.0 – 5.5
Other multi-resistance						
ES	0	0.0	0.0 – 1.6	0	0.0	0.0 – 5.5
Any H resistance	26	4.4	2.5 – 7.6	16	9.7	4.6 – 18.7
Any R resistance	10	1.7	0.6 – 4.1	10	6.1	2.3 – 14.2
Any E resistance	2	0.3	0.0 – 2.2	8	4.8	1.6 – 12.6
Any S resistance	23	3.8	2.1 – 7.0	13	7.9	3.4 – 16.5

* Prior treatment according to patient and/or record

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

Patient category	Total	Fully susceptible		Any resistance		MDR	
		n	%	n	%	n	%
RC	70	62	88.6	8	11.4	4	5.7
RF	1	0	0.0	1	100.0	0	0.0
RI	27	27	100.0	0	0.0	0	0.0
RT	42	36	85.7	6	14.3	1	2.4
Unknown	25	19	76.0	6	24.0	4	16.0
Total	165	144	87.3	21	12.7	9	5.5

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

Any resistance among
 Unfavourable outcome = 3.6%
 Favourable outcome = 12.5%

MDR among
 Unfavourable outcome = 0.0%
 Favourable outcome = 4.5%

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

	Worst case scenario	Best case scenario
Estimated number of total cases	52851	28732
Proportion retreatment cases	21.8%	21.8%
Proportion new cases	78.2%	78.2
Estimated number of:		
New cases	41329	22468
Retreatment cases	11522	6264
MDR Prevalence		
New MDR cases	1.4%	1.4%
Retreatment MDR cases	5.5%	5.5%
Estimated number of:		
New MDR cases	579	315
Retreatment MDR cases	634	345
Total number of MDR cases expected	1213	660

**Table 12. HIV status of confirmed tuberculosis patients by gender, previous treatment and drug resistance (N = 632)
National survey of tuberculosis drug resistance in Gauteng, 2001 – 2002**

HIV status	Gender									
	Male				Female				Total	
	n	%	n	%	n	%	n	%		
Positive	228	57.4	175	74.5	403	63.8				
Negative	169	42.6	60	25.5	229	36.2				
Total	397	100.0	235	100.0	632	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	309	64.6	86	58.9	8	100.0	403	63.8		
Negative	169	35.4	60	41.1	0	0.0	229	36.2		
Total	478	100.0	146	100.0	8	100.0	632	100.0		
	Drug resistance									
	Fully susceptible		Any resistance		MDR		Total			
	n	%	n	%	n	%	n	%		
Positive	366	63.3	37	68.5	11	68.8	403	63.8		
Negative	212	36.7	17	31.5	5	31.3	229	36.2		
Total	578	100.0	54	100.0	16	100.0	632	100.0		