

DR TB in Primary Health Care

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Subdistricts**

Objectives

- Interpret this information?
- Does DRTB program meet expectations?
- What are the challenges?

Outline

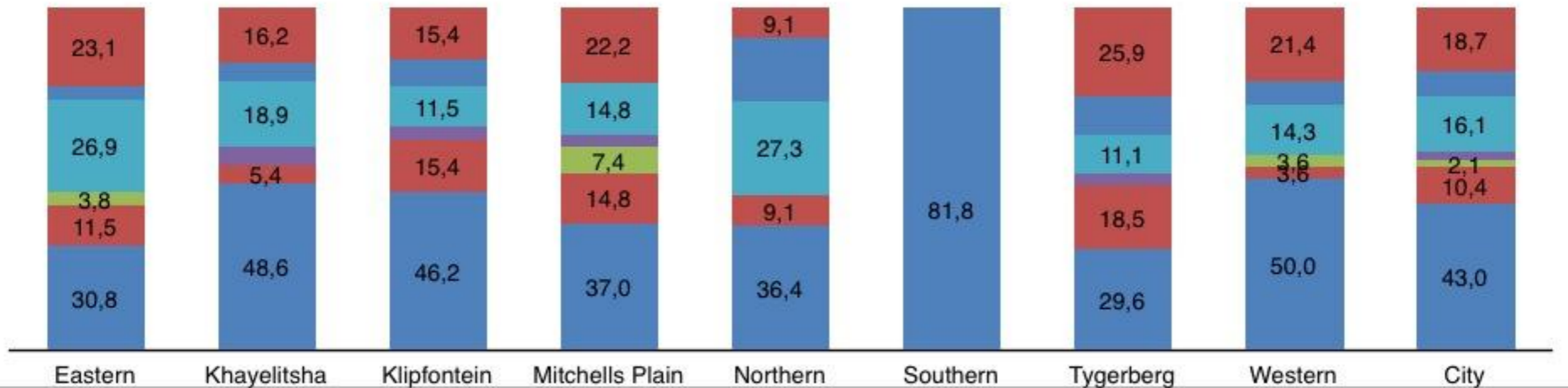
- Current figures
- Patient Flow: Transfer-ins vs Walk-ins
- Diagnosing DRTB
- Treatment Failures
- Monitoring
- Support

Number of reported cases DR TB in Western Cape

- >83% of MDR reported cases commenced on treatment are managed & supported at PHC clinics in Cape Town
- XDR admitted to hospital

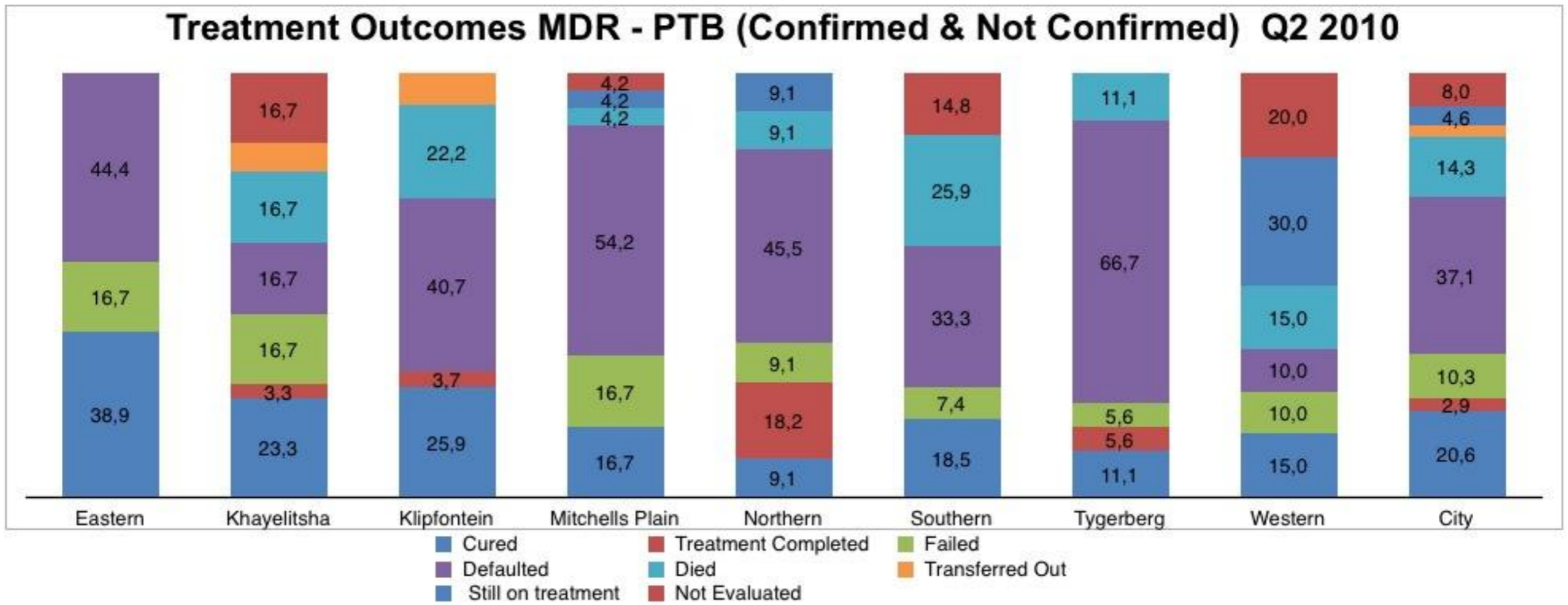
Year	Diagnosed MDR	Started on Treatment MDR	% MDR
2007	764	341	44%
2008	1153	882	76%
2009	1204	998	82%
2010	1310	1037	80%
2011	1203 (*934)	1128 (*860)	94%

Culture Conversion MDR - PTB (Confirmed & Not Confirmed) Q3 2011



- Culture Negative
- Contaminated
- No results
- Died
- Culture Positive
- Transferred out*
- Treatment Failure
- Defaulted

Treatment Outcomes MDR - PTB (Confirmed & Not Confirmed) Q2 2010



Patient Flow

- Transfer-ins
- Walk-ins

Transfer-ins

- Other primary health care facilities
- ARV Clinics
- Secondary hospitals
- Tertiary hospitals
- BCH/DPMarais hospital
- Private hospitals/practitioners
- Prison
- Other Sub-districts
- Other provinces

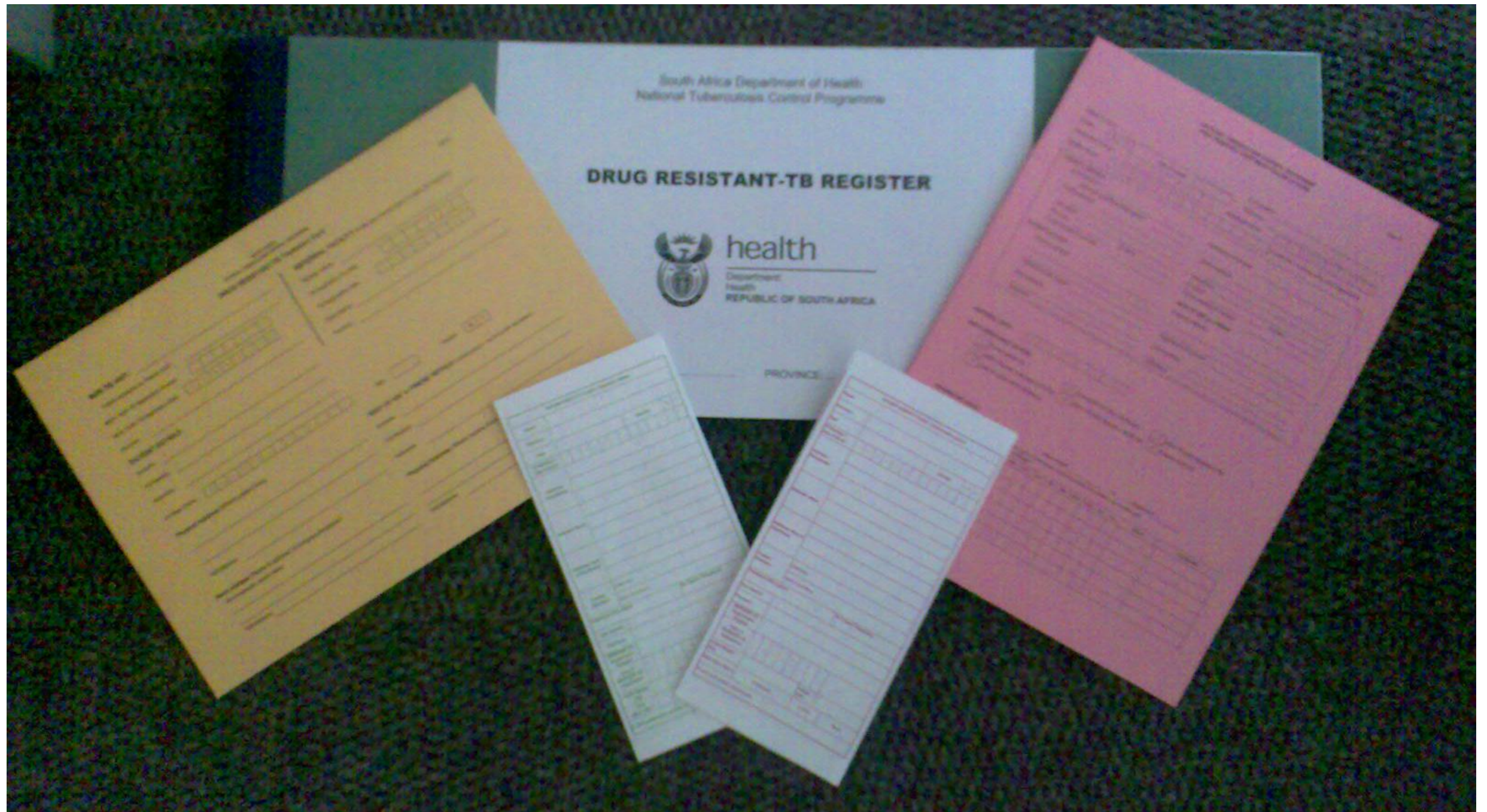
Challenges: Transfer-ins

- Non-standard Regimen
- Unavailable drugs in Public sector
- Inadequate regimen/doses
- Diagnosis unconfirmed, e.g. EPTB, empiric rx
- Results conflicting (on Rx or not)
- Delayed Rx - no GXP facilities
- Managing iv ports

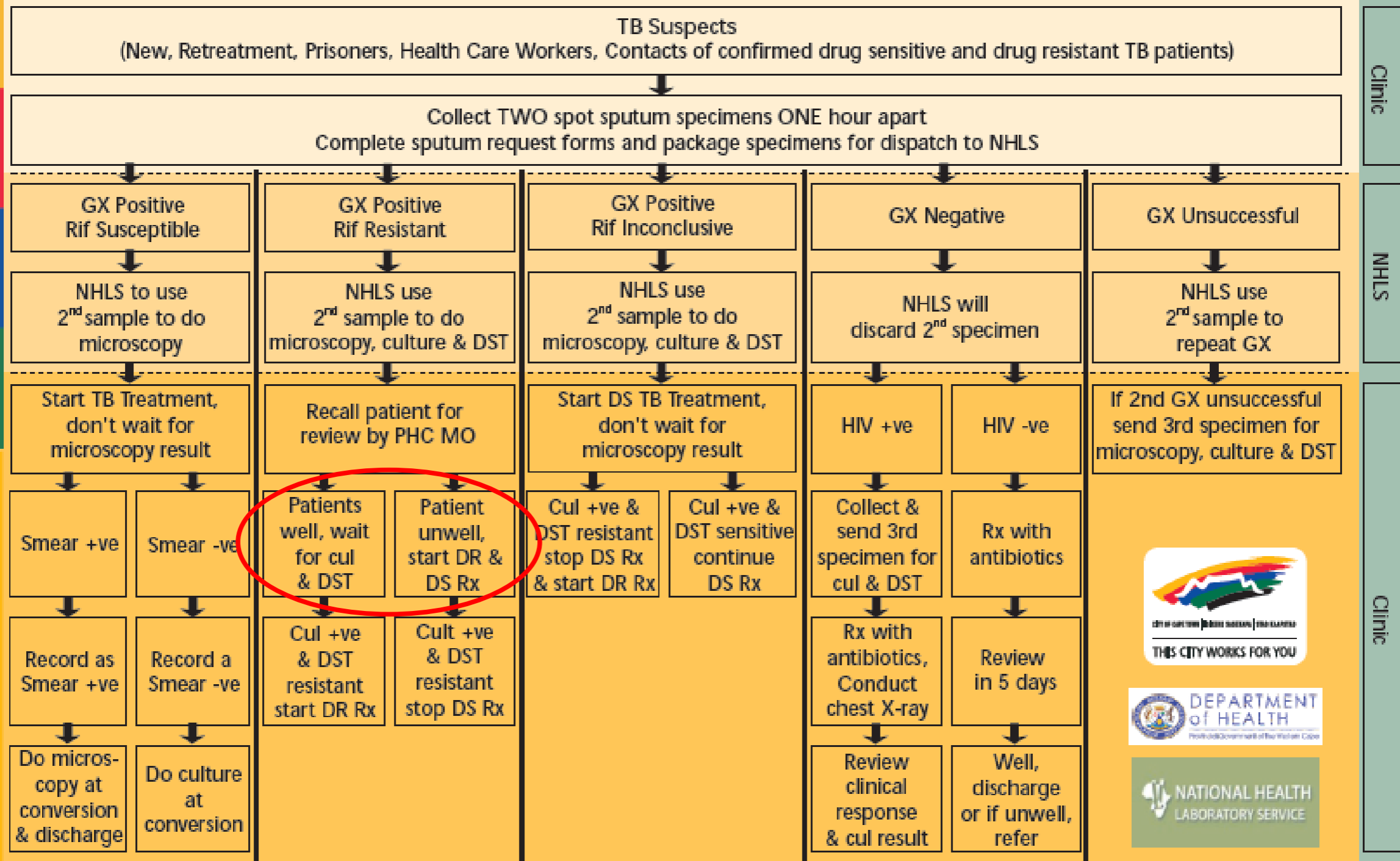
Walk-ins

- Nurse-driven/Dr supported
- Sputum x 2 collected
- GXP or smear then culture
- Rif R -
 1. Baseline bloods: TSH, K, Creat
 2. Baseline CXR
 3. Baseline Audiogram
 4. see Dr and await Culture (HAIN/MGIT)
- RifS - managed as per protocol
- GXP neg but symptomatic - see Dr

DR TB Stationery



GeneXpert Diagnostic Algorithm



Clinic

NHLS

Clinic

Challenges: Walk-ins

- Poor sputum sample
- Delayed baseline Audiogram
- Initial defaulters
- C/I to some standard Rx, e.g. Kana

GXP- Rif Resistant

- **MDR REGIMEN:** PZA +- EMB + Eto + Moxi + Teri + KANA + INH/Rif
- **C/I to Kanamycin:** age, pregnancy, existing renal disease, hearing loss, ?TDF

GXP- Rif Resistant

- Wait for confirmation sputum
 1. Rif/INH R - drop INH/Rif
Continue with MDR Reg - ?HD INH
 2. Rif/INH S - should be dropping MDR Rx and commit to RHZE
 - assess further: contact Hx, repeat sputa (1mo Rx), CXR, HIV
 - Discuss at BCH
 3. Wait for 2nd lines: MDR, pre-/XDR - book for admission
(STOP MDR Rx/NOT whilst awaiting bed)

STEP 1

Use any available + PLUS One of these + PLUS One of these

Group 1: First-line oral	Group 2: Injectable	Group 3: Quinolones
Pyrazinamide Ethambutol	Kanamycin Amikacin Capreomycin Streptomycin	Levofloxacin Moxifloxacin Gatifloxacin Ofloxacin

STEP 2

Pick one or more of these

Add Group 4 drugs until you have 4-6 drugs likely to be effective.

Group 4: Second-line oral bacteriostatic

Cycloserine/Terizadone
Ethionamide
PAS

STEP 3

Consider adding Group 5 drugs in consultation with an MDR-TB expert if there are not 4-6 drugs available in the above

Consider use of these

Group 5: Drugs of unclear efficacy

Clofazimine	Imipenem
Linezolid	
Clarithromycin	High-dose isonaizid
Amoxacillin/claulanate	



DRUG DOSING CHART FOR ADULT DRUG RESISTANT TB PATIENTS



Group	Drug	* Average Daily Dose	Weight Class			
			<33 Kg	33 - 50 Kg	51 - 70 Kg	> 70 Kg
1 PZA should be used Do not rely on EMB	Isoniazid (H) (100, 300 mg)	4 - 6 mg/kg daily	By wt.	300 mg	300 mg	300 mg
	Rifampicin (R) (150, 300 mg)	10 - 20 mg/kg daily	By wt.	450 - 600 mg	600 mg	600 mg
	Ethambutol (E) (400 mg)	15 - 20 mg/kg daily	By wt.	800 - 1000 mg	800 - 1200 mg	1200 mg
	Pyrazinamide (Z) (500 mg)	20- 30 mg/kg daily	By wt.	1000 - 1500 mg	1500 - 2000 mg	2000 mg
2 Choose 1 drug	Streptomycin (S) (1 g vial)	15 - 20 mg/kg daily	By wt.	500 - 750 mg	1000 mg	1000 mg
	Kanamycin (Ka) (1 g vial)	15 - 20 mg/kg daily	By wt.	500 - 750 mg	1000 mg	1000 mg
	Capreomycin Cm) (1 g vial)	15 - 20 mg/kg daily	By wt.	500 - 750 mg	1000 mg	1000 mg
3 Choose 1 drug	Ofloxacin(Ofx) (200, 400 mg)	15 - 20 mg/kg daily	By wt.	800 mg	800 mg	800 - 1000 mg
	Moxifloxacin (Mfx) (400 mg)	7.5 - 10 mg/kg daily	By wt.	400 mg	400 mg	400 mg
4 Add until you have 4 effective DR drugs	Ethionamide (Eto) (250 mg)	15 - 20 mg/kg daily	By wt.	500 mg	750 mg	750 mg
	Teridizone (Trd) (250 mg)	15 - 20 mg/kg daily	By wt.	500 mg	750 mg	750 - 1000 mg
	PAS (4 g sachets)	150 mg/kg daily	By wt.	8 g	8 g	12 g
5 Limited efficacy	High dose INH (100, 300 mg)	16 - 20 mg/kg daily	By wt.	By wt.	By wt.	By wt.

Challenges: GXP- Rif Resistant

- GXP RifR but HAIN/MGIT neg or NTM
- GXP RifR but clinically well and CXR clear
- GXP RifR regimen: Rif/INH or INH only.
- Add EMB or not
- Adjusting-doses or change Rx, e.g. NVP, EFV, TDF
- Add HD INH or not

Pre- and XDR TB

- Definition
 1. Pre-XDR: Rif/INH and Oflox or Kana
 2. XDR: Rif/INH and Oflox and Kana
- All referred to BCH
- Once stable - discharged back to Clinic
- Basic XDR Reg: PZA + EMB + Eto + Ter + Moxi + Capreo + PAS

Challenges: Pre- and XDR TB

- Waiting period for 2nd lines
- BCH waiting time + continue MDR Rx or stop Rx
- Duration within BCH vs Decentralization
- Monitoring XDR Rx failures

Treatment Failures

- GXP RifS but not converting at 5 or 7 months: ?Rif levels
- MDR Px but not converting at 6mo: BCH Meeting
- XDR failures: Review board, discharged back to community or to Nelspoort.

Monitoring

- Daily Clinic DOTS: compliance, SE's, drug-interxs
- Monthly Dr follow-ups: clinical response, BW, bacteriological response, SE's, co-morbidities, drug interxs, compliance, blood results (if any)
- 6-monthly: Creat, TSH, CXR
- Duration: 24 months unless not fulfilling discharge criteria

Challenges: Monitoring

- Recurrent defaulters
- Poor adherence
- Polypharmacy
- Comorbidities
- Contact/Source tracing: kids, elderly, HIV+ - ?prophylaxis
- Discharge criteria: 18/24/36mo
- Sick certificates: work/school/taxi drivers vs forced notifications
- Disability benefits: UIF/DG

Summary

- Interpret this information.
- Meet expectations.
- Challenges.

Additional Support

- SD MDT Meetings: MDR Coordinator, Nurses, CCW, Drs - TB/ARVs, BCH Dr
- BCH Meeting: 2-weekly
- TB Forum: every 2nd Friday of the month (3 CPD pts)
- Paeds CXRay Meeting: 2-wkly
- Paeds Clinic: TBH
- GFJ ID Clinic/XRay meetings
- Review Board: monthly
- City of Cape Town Management

