

SUMMARY RESULTS OF THE PPS STUDIES IN ZIMBABWE

Zinyowera S, Madzikwa N, Chaibva B, Manangazira P, Ndhlovu M, Kujinga T, Hove R, Robertson V.

(Medicines, Utilization Research In Africa Symposium MURIA Group 26 – 28 June 2017
University of Namibia, Windhoek)



Background

- ▶ Zim became a member of the MURIA group in 2015 after attending 2 MURIA meetings that took place in Botswana.
- ▶ MURIA developed a PPS tool – adapted to Zim settings.
- ▶ At the 68th WHA in 2015 – Member states urged to have AMR NAP – in line with GAP.
- ▶ Formation of a multisectorial AMR Core Group – Coordinator – conducted a situational analysis – which included a PPS.

Objective

- ▶ To determine what factors influence the type of antibiotic prescription in different hospital settings.

Methodology

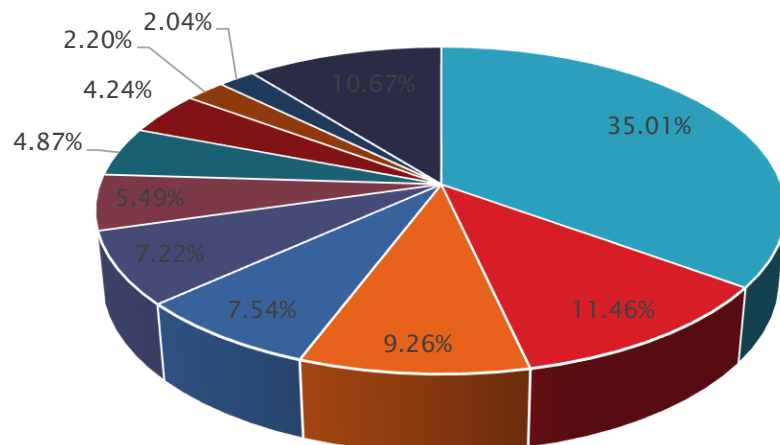
- ▶ Ethical approval Medical Research Council of Zimbabwe (MRCZ/A/2066) and Ministry of Health
- ▶ Training of IPC nurses and pharmacists.
- ▶ Carried out Dec 2016 to Jan 2017 in 18 health institutions.
- ▶ 5 Central Hospitals, 7 Provincial, 2 District, 2 infectious disease and 2 private hospitals.
- ▶ In patient medical records – patients who had been admitted before 7am in a ward and had been prescribed an antibiotic.

Results

- ▶ 810 records analysed – 1 523 antibiotics prescribed.
- ▶ Most common ceftriaxone injection 406 (27%) followed by benzylpenicillin
- ▶ Ceftriaxone was used mainly in Central, Provincial and Private hospitals – in **medical wards** for **CNS** infections
- ▶ Benzylpenicillin 1 89 (12.4%) – District and infectious disease hospitals.
- ▶ Culture and sensitivity was done in only 91(11%) of these patients.

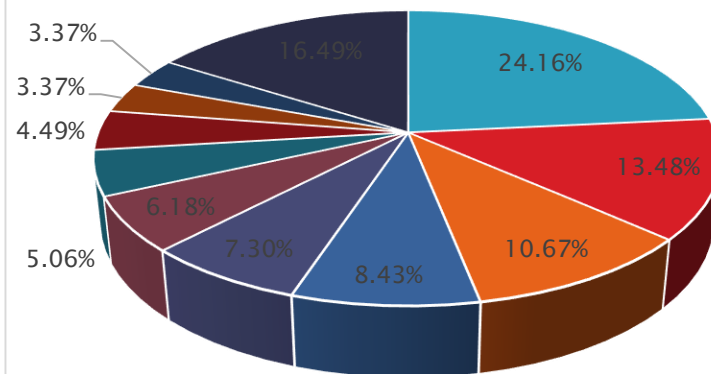
Results

Central Hospitals



- Ceftriaxone
- Metronidazole (parenteral)
- Benzympennicillin
- Gentamicin
- Cloxacillin
- Ciprofloxacin
- Sulphamethoxazole and trimethoprim
- Metronidazole (oral/rectal)
- Chloramphenicol
- Amoxicillin
- Others

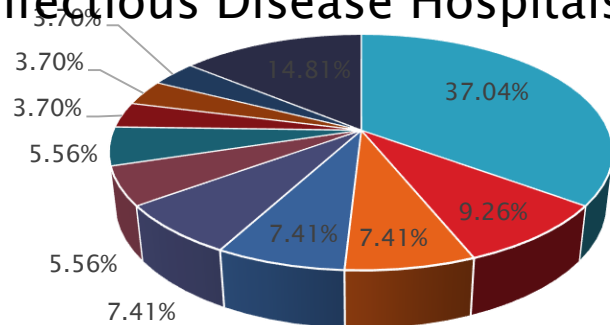
Private Sector



- Ceftriaxone
- Metronidazole (oral/rectal)
- Gentamicin
- Amoxicillin
- Ciprofloxacin
- Metronidazole (parenteral)
- Sulphamethoxazole and trimethoprim
- Cloxacillin
- Chloramphenicol
- Benzympennicillin
- Others

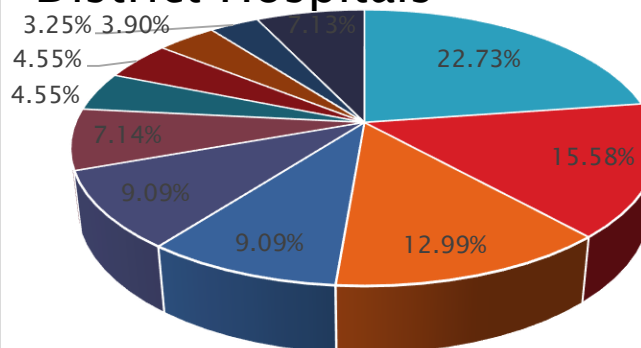
Results

Infectious Disease Hospitals



- Benzylpenicillin
- Gentamicin
- Chloramphenicol
- Cloxacillin
- Metronidazole (parenteral)
- Sulphamethoxazole and trimethoprim
- Metronidazole (oral/rectal)
- Ceftriaxone
- Ciprofloxacin

District Hospitals



- Benzylpenicillin
- Gentamicin
- Chloramphenicol
- Ceftriaxone
- Metronidazole (parenteral)
- Cloxacillin
- Amoxicillin
- Ciprofloxacin
- Metronidazole (oral/rectal)

Conclusion

- ▶ Both antibiotics supplied from Central Medical Stores – Medical Drs being the most common prescribers.
- ▶ Need for stewardship programmes to be incorporated into hospital medicines therapeutic committees.

Challenges

- ▶ Delays and bureaucracy in getting consent from heads of some health institutions.
- ▶ There was need for financial support for data collection and entering during the study for improved results and efficiency. (Stationary – transport costs)
- ▶ Trained individuals training others to carry out study.
- ▶ Some sites – understaffed.
- ▶ Some patient notes were inadequate.
- ▶ Sometimes difficult to get consent from the patients as some would be sleeping or under sedation or clashing with Senior Drs or consultants that were doing their ward rounds with students.
- ▶ Some diagnosis seemed to overlap and were not clear.
- ▶ There were some patients to whom pylobact kit was administered and this is a medicine with 3 antimicrobials – did not know how to record this using ATC codes.
- ▶ Data entry was a challenge due to none pre-coding of the variables and was also too much – too many variables.

Formation of a macro

- ▶ Tools for data capture – Epi Info, D-Base, My Sql, or access.
- ▶ Biostatistician and data manager were to be involved from the commence of survey for quality checks of submitted data.
- ▶ Use of tablets or laptops for data collection – App – workoffline
- ▶ Data accessed as soon as it is collected – secure – quality-control features.
- ▶ Alternatively REDCap (Research Electronic Data Capture) could also be used – secure, web-based application designed to support data capture for research studies
- ▶ Need to initially request from Ministry the use of international platforms for data capturing.
- ▶ **Epi Info was then the method of choice for PPS data capturing.**



Patient data

Make/Edit View: C:\MURIA_ZIMBABWE PPS\Data collection tool_patient.MDB:PPSTool Page:1

File Edit View Insert Format Tools Help

Zimbabwe-Muria PPS Data Collection

Section 1

Participant ID Hospital code Ward Code Patient code Consented

Admission date Age (years) Sex Employed Transferred in?

Any hospitalisation? (<90 days) Antibiotic use last 90 days Self employed

Any catheterization? ☐ Urinary ☐ Peripheral ☐ Peritoneal ☐ Haemodialysis ☐ Other ☐ None

Any Intubation? ☐ Endotracheal ☐ Gastrointestinal ☐ Tracheostomy ☐ Nasogastric ☐ Suction ☐ None

Malaria HIV status TB Status Mainourished CD4 count <6m On HAART

List of antibiotics used and duration last 90 days

Antibiotic 1 Duration Antibiotic 2 Duration

Antibiotic 3 Duration Antibiotic 4 Duration

Did patient undergo surgery since admission Is the patient on Antibiotics now? If yes state type Readmission

Editing a View PPSTool

July 30, 2012

4:47 PM 28-Mar-17



Indication

Make/Edit View: C:\MURIA_ZIMBABWE PPS\Data collection tool_patient.MDB:PPSTool Page:2

File Edit View Insert Format Tools Help

Section 2, Indications

indication 1	Diagnosis		Infection type		Prophylaxis/Treatment		Med/Surgical prophylaxis?	
	Prophylaxis duration		CST Ordered1		CST Results		Name of bacteria	
indication 1	Diagnosis		Infection type		Prophylaxis/Treatment		Med/Surgical prophylaxis?	
	Prophylaxis duration		CST Ordered		CST Results		Name of bacteria	
indication 3	Diagnosis		Infection type		Prophylaxis/Treatment		Med/Surgical prophylaxis?	
	Prophylaxis duration		CST Ordered		CST Results		Name of bacteria	

Editing a View
PPSTool

July 30, 2012

4:49 PM
28-Mar-17



Antibiotics used

Make/Edit View: C:\MURIA_ZIMBABWE PPS\Data collection tool_patient.MDB:PPSTool Page:3

File Edit View Insert Format Tools Help

Section 2, Antibiotics

Antibiotic	Prescription on drug sheet?	Prescribed by	Indications	Start date
Dose?	IV Bol/cont?	Frequency	No. of missed doses?	Antibiotic o/s?
Route	quality for oral switch?	Switched to oral drug?		
Empiric or targeted Abx?				
Antibiotic	Prescription on drug sheet?	Prescribed by	Indications	Start date
Dose?	IV Bol/cont?	Frequency	No. of missed doses?	Antibiotic o/s?
Route	quality for oral switch?	Switched to oral drug?		
Empiric or targeted Abx?				
Antibiotic 3	Prescription on drug sheet?	Prescribed by	Indications	Start date
Dose?	IV Bol/cont?	Frequency	No. of missed doses?	Antibiotic o/s?
Route	quality for oral switch?	Switched to oral drug?		
Empiric or targeted Abx?				
Antibiotic 4	Prescription on drug sheet?	Prescribed by	Indications	Start date
Dose?	IV Bol/cont?	Frequency	No. of missed doses?	Antibiotic o/s?
Route	quality for oral switch?	Switched to oral drug?		
Empiric or targeted Abx?				
Antibiotic 5	Prescription on drug sheet?	Prescribed by	Indications	Start date
Dose?	IV Bol/cont?	Frequency	No. of missed doses?	Antibiotic o/s?
Route	quality for oral switch?	Switched to oral drug?		
Empiric or targeted Abx?				

How many were in INN

How were in EDLIZ

Editing a View PPSTool

July 30, 2012

4:50 PM 28-Mar-17

Questionnaire for capacity assessment – Pg 1

Make/Edit View: C:\MURIA_ZIMBABWE PPS\Data collection tool_hospital.MDB:pps Page:1

File Edit View Insert Format Tools Help

QUESTIONNAIRE FOR CAPACITY ASSESSMENTS

HOSPITAL CODE

1. Does your facility have a formal antimicrobial stewardship program accountable for ensuring appropriate antimicrobial use?

2. Does your facility have a formal organisational structure responsible for antimicrobial stewardship (e.g. a multidisciplinary committee focused on appropriate antimicrobial use, pharmacy committee, patient safety committee, or other relevant structure)?

3. Is an antimicrobial stewardship team available at your facility (eg. greater than one staff member supporting clinical decisions to ensure appropriate antimicrobial use)?

4. Is there a physician identified as a leader for antimicrobial stewardship activities at your facility?

5. Is there a microbiologist accessible from your facility?

6. Is there a pharmacist responsible for ensuring appropriate antimicrobial use at your facility?

7. Does your facility provide any salary support for dedicated time for antimicrobial stewardship activities (eg. percentage of full-time equivalent [FTE] staff for ensuring appropriate antimicrobial use)?

8. Does your facility have the information technology (IT) capability to support the needs of the antimicrobial stewardship activities?

9. Is there a Microbiology division functioning in lab?

10. What is the total number of culture tests conducted in the past 3 months?

11. Was there a continuous supply of reagents for culture media available in the last 3 months?

Editing a View pps

July 30, 2012 4:51 PM 28-Mar-17



Questionnaire for capacity assessment – Pg 2

Make/Edit View: C:\MURIA_ZIMBABWE PPS\Data collection tool_hospital.MDB:pps Page:2

File Edit View Insert Format Tools Help

12. Number of days in the past 3 months when cultures could not be performed due to unavailability of ingredients for preparing the culture media.

13. Was there a continuous supply of Antibiotic Discs for conducting sensitivity tests made in the hospital in the last 3 months?

14. Number of days when Sensitivity Tests could not be performed due to an unavailability of Antibiotic Discs in the last 3 months.

15. Number of days when Sensitivity Tests could not be performed due to a breakdown of equipment in the past 3 months.

16. Was the Zimbabwe Antimicrobial Guidelines available in the ward? (latest if any)

17. Is there a functioning Infection Prevention Control Committee in the hospital? (Verify if current minutes are available in the last 3 to 6 months)

18. Is there a functioning Drugs and Therapeutics Committee in the hospital? (Verify if current minutes are available in the last 3 to 6 months)

19. Was the current/updated Essential Drug List available/accessible in the ward?

20. Does your facility have facility-specific treatment recommendations based on local antimicrobial susceptibility to assist with antimicrobial selection for common clinical conditions?

21. Does your facility have a written policy that requires prescribers to document an indication in the medical record or during order entry for all antimicrobial prescriptions?

Editing a View pps

July 30, 2012 4:51 PM 28-Mar-17

- ▶ Results of PPS in our Zimbabwe situation analysis – Chapter 5
- ▶ Findings contributed to AMR NAP.



Acknowledgements



THANK – YOU

