

Llywodraeth Cymru Welsh Government

International Learning Opportunity. Results of a Prescribing Point Prevalence Survey in Eastern Uganda.

Amanda Daniel¹, Jon Townley², Daniel Mason², Dave Cooke³, Joshua Murindwa³, Ben Omoding³, Rebecca Heyburn¹.

BACKGROUND



The author was matched with an organisation called Teams 4U (T4U) which operates a very successful Water and Sanitation Health Programme (WASH) which enabled hospitals and health facilities in the district to receive running water. A project in infection prevention and control was designed and developed with Teams 4U. Introductions were made in Uganda with all the Leads of the health care facilities by the founder of T4U and team.









International Learning **Opportunities programme**

onal Learning Opportunities programme (ILO) provides a unique opportunity to spend 8 weeks in Lesotho Namibia Somaliland or Uganda







Map of Uganda

The Team in Uganda

The policy document for the ILO and PHW strategy

reduce health inequalities within and beyond weish borde

METHODOLOGY

Two weeks were spent visiting the health care facilities and hospital (Fig. 1) in the District; networks and relationships were established where ideas could be exchanged. The hospital had an Infection Prevention Committee (Fig.2) and the author was invited to attend and discuss strengthening capacity in IPC.

Antimicrobial Resistance (AMR) is one of the top 10 global public health threat facing humanity (WHO). Misuse and overuse of antimicrobials are the main drivers of resistance but other promoters are lack of access to clean water and sanitation and inadequate infection prevention and control. A plan was discussed to conduct a Prescribing Point Prevalence Survey (PPS) in the district hospital to determine prescribing behaviour and performance indicators such as compliance with the prescribing guidance in order to design interventions to promote prudent use of antimicrobials. The model of change was utilised, Plan, Do, Study, Act (Fig. 5) to direct the project.

The hospital was registered with the Global PPS* (Fig. 3). Staff were trained in data collection for a subset of adult wards. All inpatients admitted on a mixed medical and surgical ward at 8am on the morning of the date of the survey were included in the denominator data and all inpatients on antimicrobial agents at 8am on the morning of the day of the survey were included in the numerator. Mixed adult wards also included Obstetrics and Gynaecology inpatients and all unwell New-borns. All notes were interrogated on the date of the survey and compliance with the Ugandan Clinical Guidelines (UGC) was verified by the Lead Pharmacist (Fig. 4). Data was transcribed from paper to the Global PPS electronic register which generated a report.







Figure 1: The Hospital in Eastern Africa

Figure 4: Ugandan clinical HE REPUBLIC OF USANDA MINISTRY OF HEALTH guidance UGANDA CLINICAL 2016 National Guidelines for



Ward Form (Mandatory : Fill in one form for each ward included in the PPS) Include only inpatients "admitted before and present at 08:00 hours" on the day of the PPS!

Date of survey (dd/mm/year)		Perso	on completing form (Auditor of	code):			
Hospital name :			Ward N	lame :			
000	A	Paediatric wa	Paediatric wards				
Ward Type: Tick the most appropriate type of department/ward	 AMW (General or mixed Adult Medical Ward) HO-AMW (Haematology-Oncology) T-AMW (Transplant (BMT/solid)) P-AMW (Pneumology) CAR-AMW (Cardiology) NEU-AMW (Neurology) REN-AMW (Nephrology) ID-AMW (Infectious Disease) DB-AMW (Dermatology-burn wards) PSY-AMW (Psychiatry) REH-AMW (Rehabilitation) GER-AMW (Geriatrics) LTC-AMW (Long-Term care) OBG-AMW (Isolation ward, e.g. COVID patients) 	 ASW (General or m DIG-ASW (Digestive) ORT-ASW (Orthopa) URO-ASW (Urologi) CV-ASW (Cardio-va) NEU-ASW (Neurose) ONCO-ASW (Neurose) ONCO-ASW (Oncol) PLAS-ASW (Plastic, ENT-ASW (Ear-nose) AICU (General or m) MED-AICU (Medica) SUR-AICU (Surgica) CAR-AICU (Cardiac) AHDU (High Depen) 	ixed Adult Surgical Ward) e tract surgery) eedics-Trauma surg.) cal surg.) iscular surg.) urgery) ogy-cancer surg.) reconstructive surg.) e-throat surg.) hixed Adult Intensive Care Un al AICU) AICU) AICU) dency Unit)	PMW (Paer HO-PMW (PSW (Paed PICU (Paed DICU (Paed DICU (Paed NICU (Neor NICU (Neor NICU (Neor	 PMW (Paediatric Medical Ward) HO-PMW (Haematology-Oncology) T-PMW (Transplant (BMT/Solid)) PSW (Paediatric Surgical Ward) PICU (Paediatric Intensive Care Unit) ID-PMW (Infectious Disease PMW) Neonatal wards: NMW (Neonatal Medical Ward) NICU (Neonatal Intensive Care Unit) 		
Mixed Ward	Yes No						
Activity: Tick as appropriate. In ca	se of mixed wards, tick all encountered activities/spe	ecialities	Medicine	Surgery	Intensive Care		
Total number of <u>admitted</u> inpatie ward present at 8.00 am on day of corresponding to each of the enco Total number of beds on the war departments fill in the total number	ents (=all patients whether they receive an antimicro of PPS. For mixed departments, fill the total number of puntered activities. d present at 8:00 am on day of PPS split up by activity per of beds corresponding to each of the encountered	bial or not !) on the of patients y. For mixed d activities					



Data collection forms for wards and inpatients

GLOBAL-PPS PATIENT Form (Mandatory: Fill in one form per patient with an ongoing antimicrobial at 8am on the day of the PPS)

	Ward Name/code	Activity ¹ (M, S, IC)	Patient Identifier ²	Survey Number ³	Patient Age ⁴			Current	Neonate only (optional)		
					Years ≥ 2 years	Months 1-23 month	Days <1 month	Weight* In kg	Gestatio- nal age*	Birth weight* (kg)	Sex M, F, U

Treatment based on b	Treatment based on biomarker data or WBC		0 Yes - 0 No		Culture(s) sent to the lab to document infection* (Tick if yes)				
Marca Alaka	Туре		Most relevan	t value close to		Blood		Cerebrospinal fluid	BAL (protected resp. specimen)
CRP, PCT, other	sample		start antimicrobial Value Unit ⁶			Urine		Wound (surgery/biopsy)	Sputum/bronchial aspirate
or WBC ⁵	(Blood/urine/ other)					Stool		Other type of specimen	

Figure 2:The IPC Committee	Figure 3: Registration with the Global PPS	Act Plan Figure 5: PDSA cycle	Antimicrobial Name 71.2.3.4.5.Start date of the antime robial * (dd/mm/yyyy)
		RESULTS	

Overall antimicrobial prescribing prevalence was 71.2% (48/66) (Fig. 1), which is high compared to neighbouring low income country prevalence rates (30-57%) source Fig. 2. Prescribing rates were high for **New-borns** 87.5% (6/7). Documentation of indication for use was 61.9% for medical cases and 88.9% of surgical cases. Compliance with UCG was 52.6% in medical cases and 26.7% in Surgical cases (Fig. 3). Documentation in general, for a number of reviewed cases were poor, Fig. 4. shows documentation of a four day old baby prescribed Ampicillin and Gentamicin. There was no indication for use, no clinical assessment, dose or route of drug documentation and no record of whether the drug was administered. There were high prescribing rates of broad spectrum antibiotics (Ceftriaxone) for Cystitis, Urinary Tract Infection in pregnant women. This is not recommended in the UCG as first line treatment and the reason was not due to lack of availability of the first line agent.

	Medical		
Article Antibiotic Prescribing Patterns in Ghana, Uganda, Zambia and Tanzania Hospitals: Results from the Global Point Prevalence Survey (G-PPS) on Antimicrobial Use and Stewardship Interventions Implemented	Reason in notes Guidelines missing Guideline compliant	26 61.9 0 0.0 10 52.6	
The overall prevalence of antimicrobial use was 50% (30–57%), with most antibiotics prescribed belonging to the WHO 'Access' and 'Watch'	Stop/review date documented Surgical Reason in notes	38 90.5 24 88 9	
Categories.	Guidelines missing	0 0.0	l'ège
Antimicrobials were most often prescribed for prophylaxis for obstetric or gynaecological surgery, making up between 12 and 18% of total	Stop/review date	4 20.7 24 88.9	n Baby
prescriptions across all countries	documented		29 (no
	Article Antibiotic Prescribing Patterns in Ghana, Uganda, Zambia and Tanzania Hospitals: Results from the Global Point Prevalence Survey (G-PPS) on Antimicrobial Use and Stewardship Interventions Implemented The overall prevalence of antimicrobial use was 50% (30–57%), with most antibiotics prescribed belonging to the WHO 'Access' and 'Watch' categories. Antimicrobials were most often prescribed for prophylaxis for obstetric or gynaecological surgery, making up between 12 and 18% of total prescriptions across all countries	Article Antibiotic Prescribing Patterns in Ghana, Uganda, Zambia and Tanzania Hospitals: Results from the Global Point Prevalence Survey (G-PPS) on Antimicrobial Use and Stewardship Interventions Implemented The overall prevalence of antimicrobial use was 50% (30–57%), with most antibiotics prescribed belonging to the WHO 'Access' and 'Watch' categories. Antimicrobials were most often prescribed for prophylaxis for obstetric or gynaecological surgery, making up between 12 and 18% of total prescriptions across all countries	Article Article Reason in notes 26 61.9 Antibiotic Prescribing Patterns in Ghana, Uganda, Zambia and Tanzania Hospitals: Results from the Global Point Prevalence Survey (G-PPS) on Antimicrobial Use and Stewardship Interventions Implemented Reason in notes 26 61.9 The overall prevalence of antimicrobial use was 50% (30–57%), with most antibiotics prescribed belonging to the WHO 'Access' and 'Watch' categories. Stop/review date 38 90.5 Antimicrobials were most often prescribed for prophylaxis for obstetric or gynaecological surgery, making up between 12 and 18% of total prescriptions across all countries 0 0.0 4 26.7 24 88.9

Figure1: Numerator and denominator data

documented.

Figure 4: Notes for a four day old baby

BNF

September 2019

of chare,



CONCLUSIONS AND RECOMENDATIONS

Findings were presented to the hospital Infection Prevention Committee and at district health facility level meetings. An Antimicrobial Stewardship Committee was expedited and an action plan formulated to roll out the "Prescribing Companion Application", raise awareness through education sessions with prescribers and give feedback to prescribers by clinicians. Standards for documentation and use of drug charts were being explored. The group planned to repeat the PPS in six to twelve months to evaluate the effect of the proposed interventions.

There was prolonged use of surgical prophylaxis with 94% on antibiotics prescribed beyond one day (Graph 1). Over 56% of antibiotics

prescribed, belonged to the WHO "Watch and "Not Recommended" category. Guideline compliance was sub-optimal and indication for use was not

¹HARP, Infection Prevention and Control, Public Health Wales, ² International Relations, Welsh Government, ³ Teams 4 U

Acknowledgement: Ines Pauwels Global-PPS Coordination Centre, Antwerp, Belgium * (bioMérieux is the sole industrial partner of the Global-PPS. The company has no role in study design, data collection, data analysis, data interpretation, or writing the report. Data are strictly confidential and stored anonymously at the coordinating centre of the University of Antwerp)



World Health Organization

WHO COMPETENCY FRAMEWORK FOR HEALTH WORKERS' EDUCATION

AND TRAINING ON ANTIMICROBIAL

RESISTANCE