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TASP Formulary Project

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Outline

- Review details of survey
- Present data from survey
- Focus on two findings:
 - Availability of empiric meningitis/encephalitis treatment
 - Availability of HIV post-exposure prophylaxis
- Questions and feedback



TASP Formulary Survey

Purpose:

- To characterize the variations in hospital formulary across the Western region, especially in small and critical-access hospitals
- To identify potential opportunities for formulary optimization



TASP Formulary Survey

Methods:

- HIPAA-compliant, REDCap survey
- Sent to a convenience sample of TASP participant hospitals and networked rural hospitals
- Respondents reported
 - Antimicrobials on hospital formulary
 - Demographic information about hospital size and care provided
- Data reviewed by ID-trained MDs and PharmDs



TASP Formulary Survey



Formulary Survey

How many inpatient beds does your hospital have?

* must provide value

- ☐ 0 - 25
- ☐ 26 - 49
- ☐ 50 or greater

[reset](#)

Does your hospital offer ICU beds for the management of critically ill patients?

* must provide value

- ☐ Yes
- ☐ No

[reset](#)

Does your hospital have long term care beds?

* must provide value

- ☐ Yes
- ☐ No

[reset](#)



TASP Formulary Survey

Fluoroquinolones

Ciprofloxacin

Levofloxacin

Moxifloxacin

Antiretroviral Agents

Dolutegravir

☐ Oral

Raltegravir

☐ Oral

Emtricitabine

☐ Oral

Tenofovir disoproxil fumarate

☐ Oral

Emtricitabine-tenofovir disoproxil fumarate (Truvada)

☐ Oral

Please list any other **antiretroviral agents** on formulary and indicate if they are available in the intravenous and/or oral formulations.

Expand



Results - Table 1

Table 1. Characteristics of participating hospitals

Total number of hospitals = 47

	Washington	Idaho	Oregon	Arizona	Utah
Location	27 (57.4)	12 (25.5)	4 (8.5)	3 (6.4)	1 (2.1)
Number of inpatient beds	0-25	26-49	>50		
	40 (85.1)	3 (6.4)	4 (8.5)		
Does the hospital participate in the TASP program?	Yes	No			
	44 (93.6)	3 (6.4)			
Does the hospital have ICU beds?	21 (44.7)	26 (55.3)			
Does the hospital have LTC beds?	21 (44.7)	26 (55.3)			

Data are presented as no. (%)



Results - Antibacterials

- At least one aminoglycoside
- At least one carbapenem
- Cefazolin
- Ceftriaxone
- Levofloxacin

Size of hospital (inpatient beds)		0-25	25-50	>50
Number of hospitals in the study		40	3	4
Aminoglycosides	Amikacin	5	0	75
	Gentamicin	95	100	100
	Tobramycin	32.5	66.6	100
Carbapenems	Ertapenem	92.5	66.6	100
	Imipenem-cilastin	40	0	25
	Meropenem	82.5	100	100
Cephalosporins	Cefazolin	100	100	100
	Ceftriaxone	100	100	100
	Ceftazidime	70	66.6	75
	Cefepime	85	66.6	100
	Ceftazidime-avibactam	0	0	50
	Ceftolozane-tazobactam	0	0	25
	Ceftaroline	15	33.3	50
Fluoroquinolones	Ciprofloxacin	95	100	75
	Levofloxacin	100	100	100
	Moxifloxacin	15	0	25

Data are presented as percentage of hospitals with each medication on formulary

Green = >90%, Yellow = between 50% and 90%, Red = <50%



Results - Antibacterials

- Vancomycin
- Amoxicillin and amox-clav
- Pip-tazo
- Doxycycline
- Azithromycin
- Metronidazole
- TMP-SMX

Table 2. Formulary data

Size of hospital (inpatient beds)		0-25	25-50	>50
Number of hospitals in the study		40	3	4
Glycopeptides, Glycolipopeptides, and Lipopeptides	Oritavancin	5	33.3	25
	Dalbavancin	2.5	0	50
	Daptomycin	65	66.6	75
	Vancomycin	100	100	100
Penicillins	Amoxicillin	100	100	100
	Amoxicillin-clavulanate	100	100	100
	Ampicillin	85	100	100
	Piperacillin-tazobactam	100	100	100
Tetracyclines	Doxycycline	100	100	100
	Minocycline	7.5	0	75
	Tigecycline	10	0	50
	Azithromycin	100	100	100
	Clindamycin	100	66.6	100
	Linezolid	67.5	100	100
	Metronidazole	100	100	100
Miscellaneous antibiotics	Trimethoprim-sulfamethoxazole	100	100	100

Data are presented as percentage of hospitals with each medication on formulary

Green = >90%, Yellow = between 50% and 90%, Red = <50%



Results - Antivirals and antifungals

- Everyone has oseltamivir
- More on acyclovir, valacyclovir and ARVs in a moment
- All but one hospital had fluconazole
- Antimycobacterials and antiparasitics – a smattering, mostly at the larger hospitals

Table 2. Formulary data

Size of hospital (inpatient beds)		0-25	25-50	>50
Number of hospitals in the study		40	3	4
Antivirals	Oseltamivir	100	100	100
	Acyclovir (intravenous formulation)	82.5	100	100
	Valacyclovir	62.5	66.6	100
Antifungals	Amphotericin	7.5	33.3	75
	Fluconazole	97.5	100	100
	Voriconazole	10	0	75
	Micafungin	27.5	33.3	75
	Caspofungin	7.5	33.3	25

Data are presented as percentage of hospitals with each medication on formulary

Green = >90%, Yellow = between 50% and 90%, Red = <50%



Meningitis & encephalitis treatment

- Empiric bacterial meningitis treatment:₁
 - <1 month: Ampicillin + cefotaxime or an aminoglycoside
 - 1 month – 50 yrs: Vancomycin + a 3rd gen cephalosporin
 - >50 yrs: Add ampicillin to the above regimen
 - *Meropenem as an alternative
- Empiric encephalitis treatment:
 - High-dose IV acyclovir₂
 - In a pinch, high-dose PO valacyclovir may be effective₃



Results - Table 3

Table 3. Hospitals lacking encephalitis/meningitis coverage

Critical Drugs Missing from Formulary	Number of hospitals (N =47)
IV Ampicillin	6 (12.7)
Alternative available (meropenem)	1 (2.1)
IV Acyclovir	7 (14.9)
Alternative available (valacyclovir)	3 (6.4)

Data are presented as no. (%)

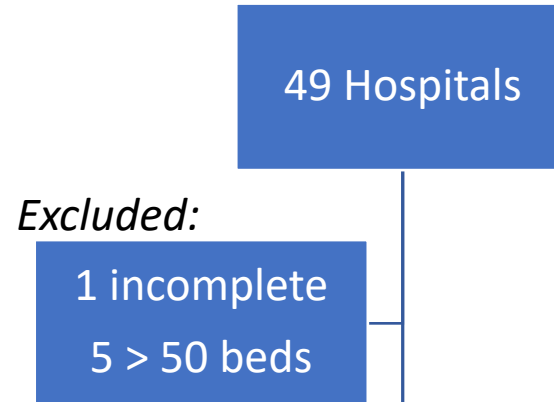


Post-Exposure Prophylaxis (PEP)

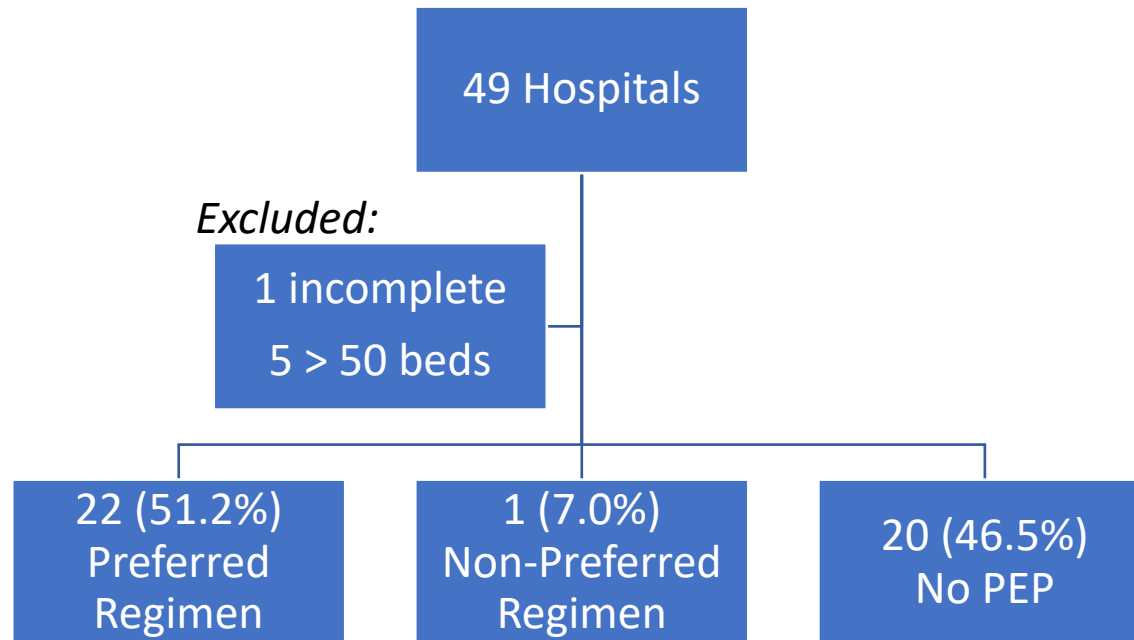
- Preferred PEP regimens per CDC:
 - TDF/FTC (tenofovir/emtricitabine) QD
 - Plus *either*
 - RAL (raltegravir) BID
 - DTG (dolutegravir) QD
- Benefits: HIV prevention!
- Challenges:
 - Need for rapid availability (within 72 hours of exposure)
 - Costly to maintain on formulary
 - Unpredictable use → expiration



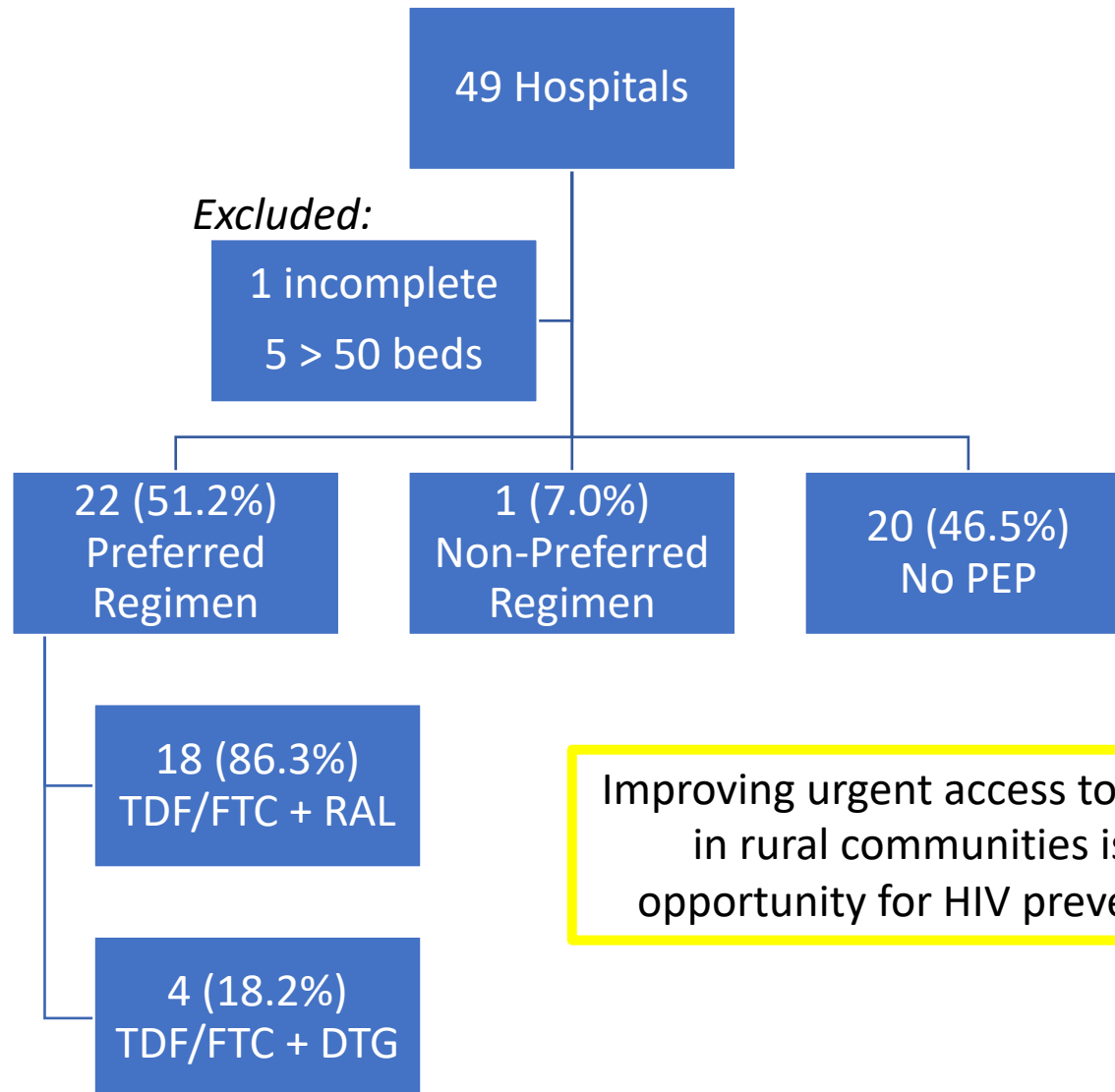
Post-Exposure Prophylaxis (PEP)



Post-Exposure Prophylaxis (PEP)



Post-Exposure Prophylaxis (PEP)



Improving urgent access to HIV PEP in rural communities is an opportunity for HIV prevention.



Conclusions

- The antimicrobial formularies of participating hospitals are well designed to provide excellent patient care to their communities
- Two areas for optimization were identified:
 - Ensuring access to empiric meningitis and encephalitis treatment
 - Ensuring access to HIV PEP



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Questions and Feedback



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