

Performance of Tikur Anbessa Specialised Hospital: Cross sectional Study



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Outlines

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Introduction

- Medicines are integral part to any healthcare system. They account 23.3%–33.2% of the total health spending countries globally. *(WHO, 2010)*
- Up to 90% of the population in developing countries purchase medicines out-of-pocket. This makes medicines the largest family expenditure item following food. *(WHO and HAI, 2008)*



Introduction....cont'd

- Limited access to essential medicines:
 - undermines health systems' objectives of equity, efficiency and better health service provision.
 - aggravates irrational use of medicines which is a common problem in developing countries including Ethiopia .
- Proper management of pharmaceutical SC
 - Improves access to essential medicines
 - Minimizes wastage and ensures effective utilization of limited resources

12/27/2016 | Increases program impact and enhances quality of care



Statement of the problems

Evidences in Ethiopia shows that the pharmaceutical supply chain is not performing well

- **Improving Supply Chain and Logistic Management is Strategic Objectives of FMOH in its Health Sector and Transformation Plan (2015/16 - 2019/20)**
- **Performance measures:**
 - 1. Increase availability of essential drugs for primary, secondary and tertiary healthcare to 100%
 - 2. Reduce wastage rate to less than 2%
 - 3. Increase proportion of essential drugs procured from local manufacturers from 25% to 60%
 - 4. Reduce procurement lead-time from 240 days to 120 days



Objective

- General Objective
 - To assess pharmaceutical SCM performance of Tikur Anbessa Specialized Hospital (TASH) in Addis Ababa, Ethiopia.
- Specific Objectives
 - To explore how the pharmaceutical SCM operates in TASH
 - To determine pharmaceutical SCM performance of TASH



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Method - Study Setting

Tikur Anbessa Specialised Hospital (TASH), CHS, AAU



12/27/2016

8



- TASH
 - University Teaching Hospital
 - Established in 1972
- Provide Services to 700,000 patients per year through 77 case teams organized
 - Outpatients (adult vs pediatrics)
 - Emergency (adult vs pediatrics)
 - In patients
 - Surgery

Professionals	Number	%
Medical Doctors - Specialist	360	10.3%
Medical Doctors - Sub - Specialist	92	2.6%
Medical Doctors – General practitioner	90	2.6%
Residents	500	14.3%
Intern	99	2.8%
Medical students	1396	40.0%
Midwives	38	1.1%
Nurse	730	20.9%
Pharmacist	65	1.9%
Other health professionals	124	3.5%



Methods-Study Design and Data Collection

- **Survey** was conducted using qualitative and quantitative data collection
- Data was collected in May, 2016
- **In-depth interview** was also held with Pharmacy Service Directorate Director; Medical Store Manager and Supply Chain Coordinator of the Hospital
- A **Delphi technique** was used to select medicines which indicate pharmaceutical supply chain performance of the Hospital



Methods-Study Design and Data Collection

- The **SC performance** was assessed based on tools developed by **USAID | DELIVER project for public health managers**. *(Aronovich et al., 2010)*
- **Direct Observation** was made at the **main store** of the Hospital
- **Data were abstracted** from Bin Cards, Report and Requisition Form, HIMS report and IFRR



Methods- Data Analysis and Ethical Clearance

- Quantitative data were analysed by using **simple descriptive statistics** (mean, percentage and proportion)
- Qualitative data were also analysed by **theme**.
- Ethical approval was obtained from SoP, Addis Ababa University and management of the hospital.



Results - Qualitative

I. Qualitative Findings

Description of Interviewee

- All respondents were
 - Profession: **Pharmacists** (B. Pharm - M. Pharm)
 - Age: **27 - 36** years
 - Average work experience: **8.3** [6-11] years of work in the hospital



Results - Qualitative.....cont'd

- *Pharmaceutical SCM operation of TASH*
- *Selections of Pharmaceuticals*
 - Medicines were selected by pharmacists based on TASH's list medicines (developed in 2012)

"Nevertheless, the list of medicines has not been updated for so long and it also considers almost all medicines as vital and essential"Pharmaceutical SC coordinator

- Director of Pharmacy Service Directorate and DSM case team coordinator also prepare annual budget breakdown for different category of products

"last year we requested 134 million but we obtained ~ 22, million from the university. In the middle of the year, extra budget was mobilized from Ministry of Finance and stakeholders and procurement was made effective. This kind of budget shortage makes you unplanned...." Director of Pharmacy



Results- Qualitative.....cont'd

- *Pharmaceutical quantifications*
 - Drug and Supply Chain Management case team quantify pharmaceuticals mainly by using consumption method. However, this has lead the hospital to **overlook new drugs and dosage** forms that should have been included in the procurement list”



Results- Qualitative.....cont'd

- **Pharmaceutical Procurement**

- DSM case team select, prepare specification and determine quantity of medicines to be procured.
- Procurement practice is initiated from the hospital after the securing approval from Clinical service Director
- Medicines are **directly procured** from PFSA. However, when there is stock out, the hospital rarely uses **open procurement** method and **Request for Quotations**
- The procurement is made by DSM procurement officer (pharmacist) and procurement officer (**purchasing professionals**)



Results- Qualitative.....cont'd

- **Transportation**

- While Products for vertical program delivered directly by PFSA, products purchased through Revolving Drug Fund (RDF) delivered by the hospital vehicle.
- **Absence of dedicated vehicle** for the Hospital was major gap.



Results- Qualitative.....cont'd

- **Pharmaceutical Distribution within the Hospital**
 - Distribution to each dispensing units was made every two weeks using IFRR

" Sometimes this schedule may not be functional when medications are unavailable in central medical store.. "....Store manager

The hospital sends Report and Requisition Form (RRF) to PFSA monthly but they complained for not getting the requested type and amount of medicines .

" we always send report but we are not getting the requested amount and types of medicines from PFSA. This, in turn, is making our staff reckless in estimating quantitiesSC coordinator



Results- Qualitative.....cont'd

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Table: Medical store operation of TASH, May 2015/16

Description	Yes	No
Bin Cards are used & updated regularly	x	
Labels, expiry dates, and/or manufacturing dates are visible.	x	
Products are stored & organized in a manner which hospital uses of FEFO		x
Products are protected from direct sunlight at the of the SURVEY	x	
The storeroom is maintained in good condition (clean, no trash, sturdy shelves, and boxes well-organized).	x	
Storage area is secured with a lock and key	x	
Store manager is available during normal working hours		x
Cartons and products are in good condition	x	



Results- Qualitative.....cont'd

- How the hospital measure its Pharmaceutical SCM performance?
 - No objective indicator was used to measure performance
- “*We measure our performance by comparing with the past. For instance, availability of medicines for this year has increased in both variety and quantity compared to last year. Improvement in inventory record keeping and implementing IPLS was also done. Moreover, we managed to reduce expire of medicines significantly.....SC coordinator*”

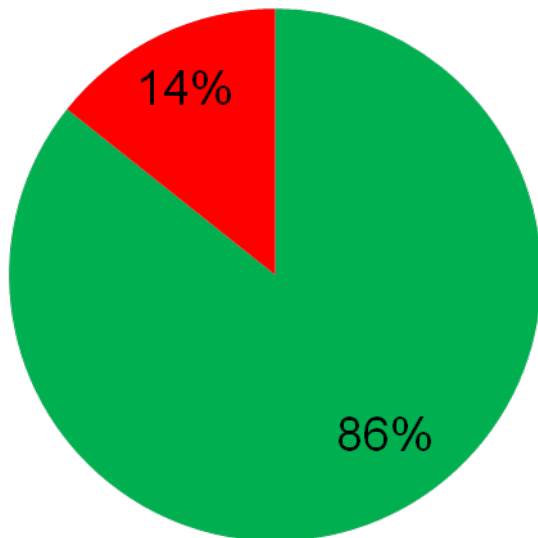


S. No.		S.No.	
1	Acyclovir 200mg tab	18	Mannitol 20%
2	Adrenaline 0.1%/ml	19	Methyldopa 250mg x200 tabs
3	Amoxicilline 125mg/5ml susp.	20	Metoformine 500mgX100 tab
4	Atropine sulphate 1mg/ml	21	Metronidazole 5mg/ml ini.
5	Ceftriaxone 1gm inj.	22	Morphine 10mg/ml inj.
6	Cimetidine 200mg/2ml	23	NPH insulin
7	Dextrose 40%	24	ORS
8	Diazepam 5mg/ml inj.	25	Oxytocin 10IU inj
9	Dopamine 40mg/ml	26	Parcetamole 125mg supp.
10	Enalpril 10 mg x100 tabs	27	Phenobarbitone 30mg x100tabs
11	Furosemide 10mg /ml inj.	28	Plasil 5mg/2ml
12	Heparine 25,000IU/5ml	29	Regular insulin
13	Hydralazine 20mg/ml	30	salbutamol inhaler
12/27/2016 14	Hydrocortisone 100mg inj	31	Sodium Chloride 0.9% ² (NS)
15	KCl inj.	32	Tramadole 50mg/ml ini

Results- Availability of Medicines

Availability of Medicines

■ Yes ■ No



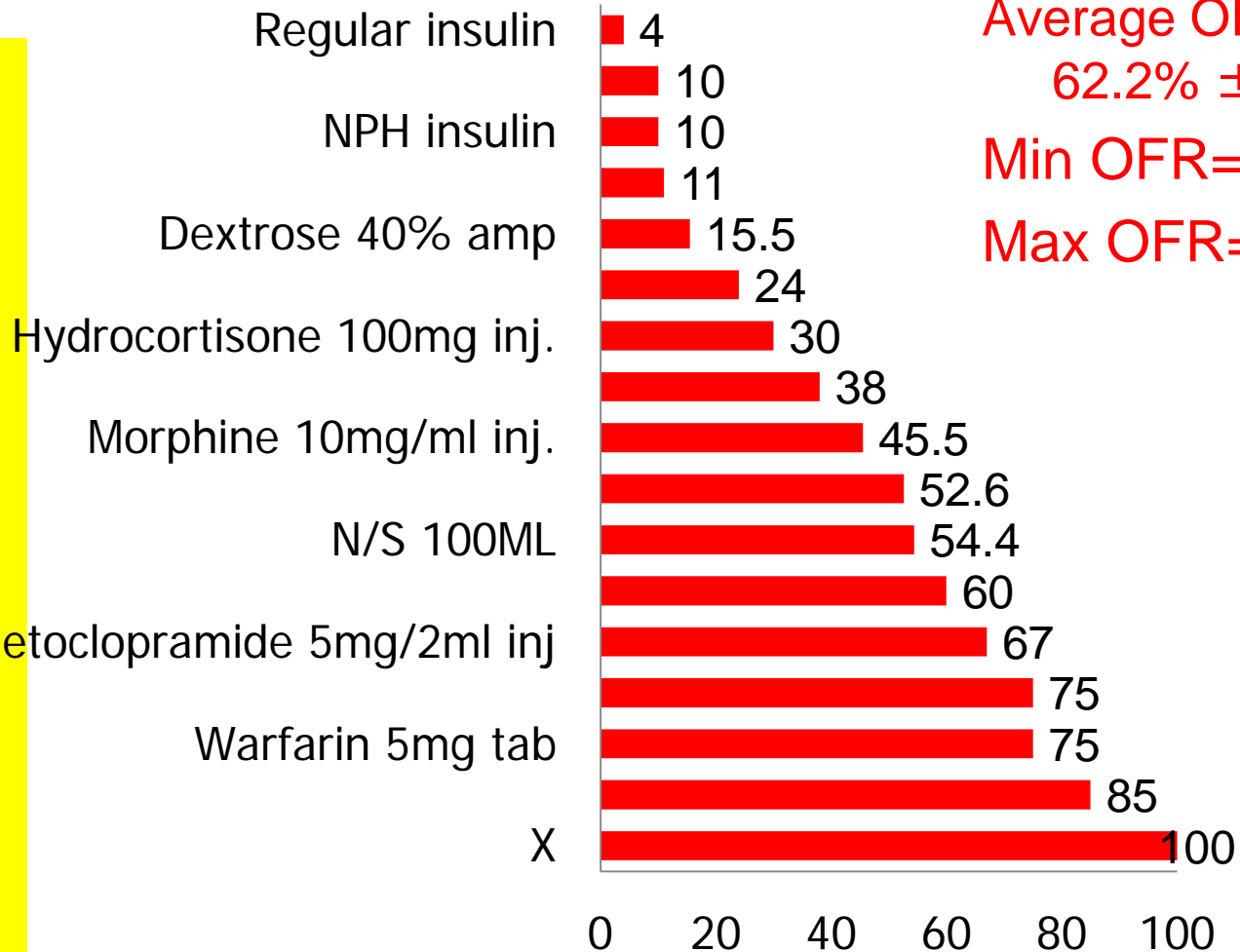
- *Unavailable medicines at the time of the survey were:*
- Atropine sulphate 1mg/ml
- Salbutamol inhaler
- Lidocaine 20%
- KCl inj.
- Vit K inj.



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Results- Order Fill Rate ...cont'd

X= 9(30%) of the medicines
Amoxicillin
125mg/5ml susp.
Phenobarbitone 30mg tabs,
Metronidazole 5mg/ml ini.,
TTC eye ointment;
Ceftriaxone 1gm inj.,
Adrenaline 0.1%/ml, Metoclopramide 5mg/2ml inj
Paracetamol 125mg supp.
Diazepam 5mg/ml amp,
Enalapril 10 mg tabs



Average OFR= 62.2% ±35.8)
Min OFR= 4%
Max OFR= 100

■ Order Fill Rate (%)

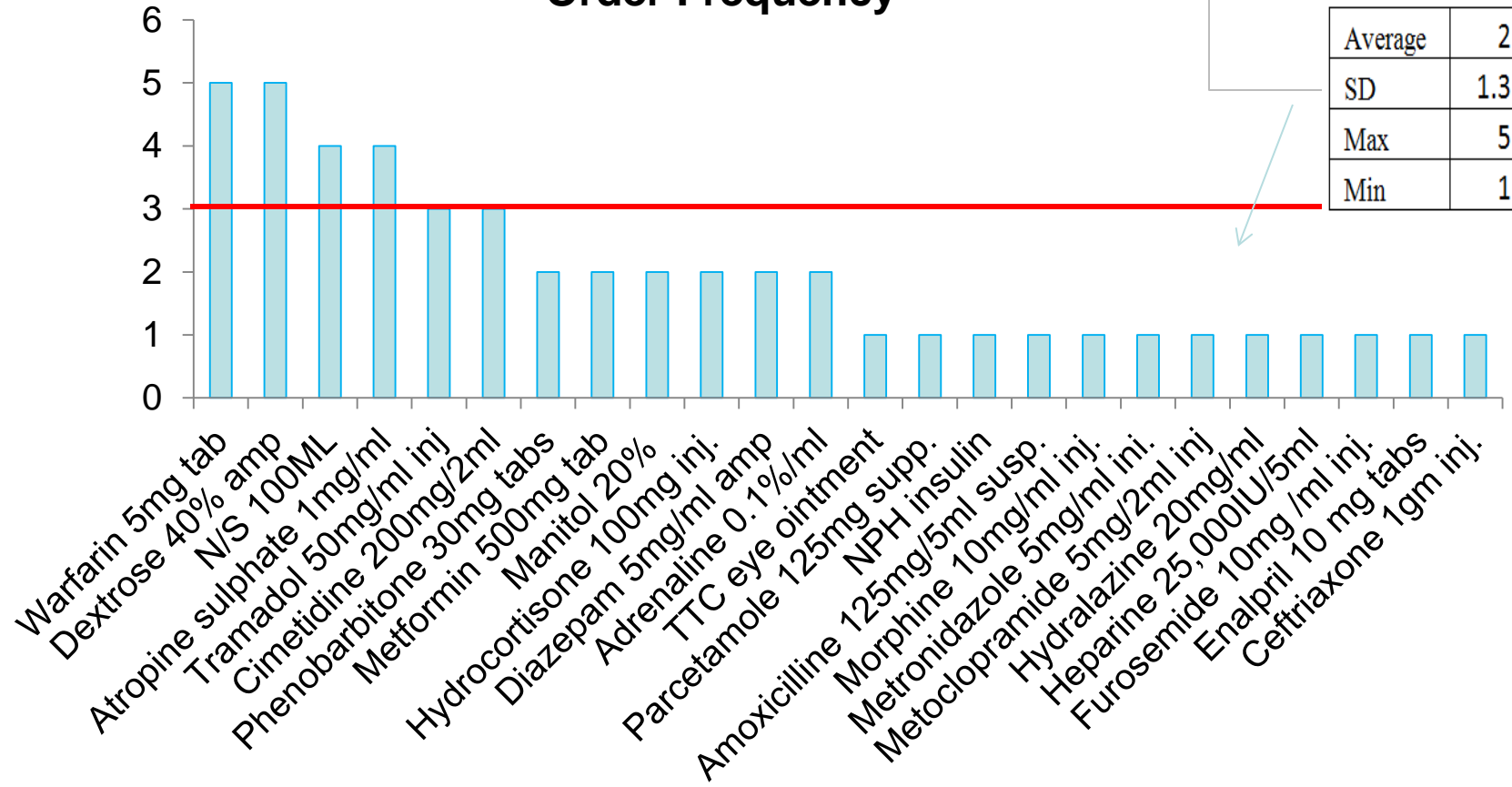


Results- Order Frequency

Order Frequency

Ideal Frequency for 6 months

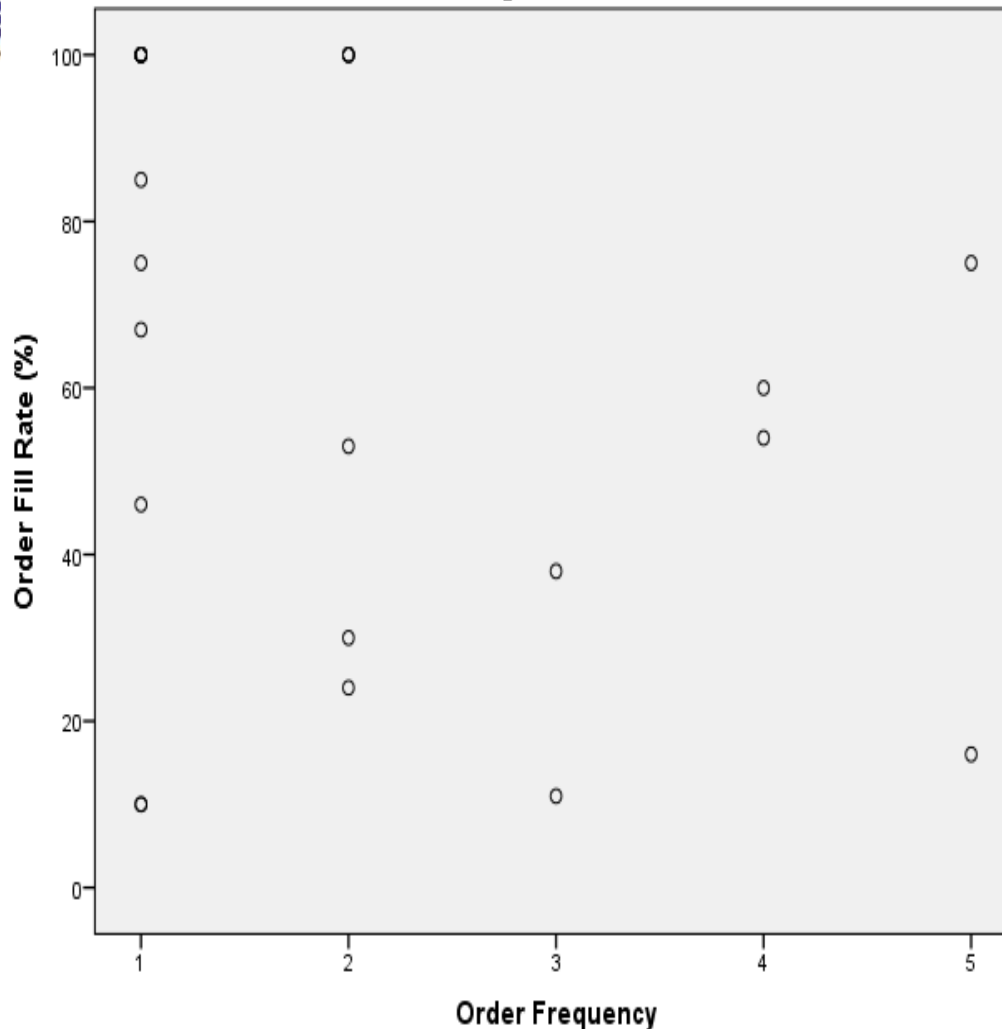
Average	2
SD	1.3
Max	5
Min	1





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Results- Order Frequency...cont'd



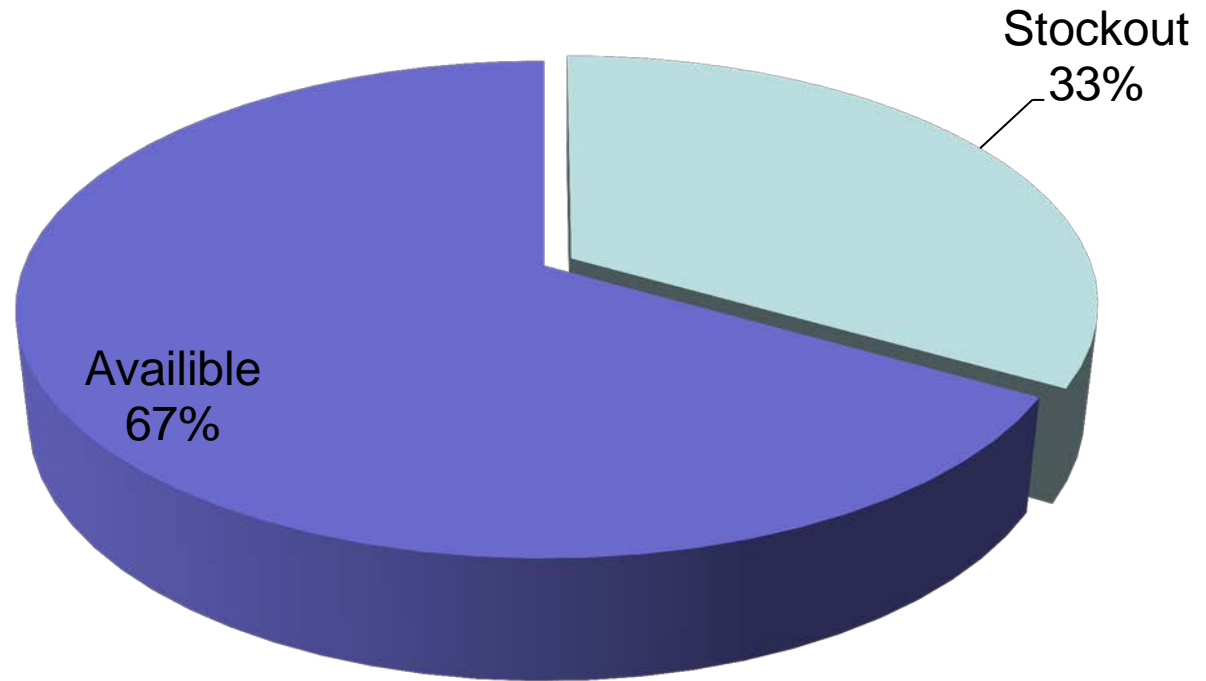
Correlations

		Order Fill Rate (%)	Order Frequency
Order Fill Rate (%)	Pearson Correlation	1	-.328
	Sig. (2-tailed)		.117
	N	24	24
Order Frequency	Pearson Correlation	-.328	1
	Sig. (2-tailed)	.117	
	N	24	24

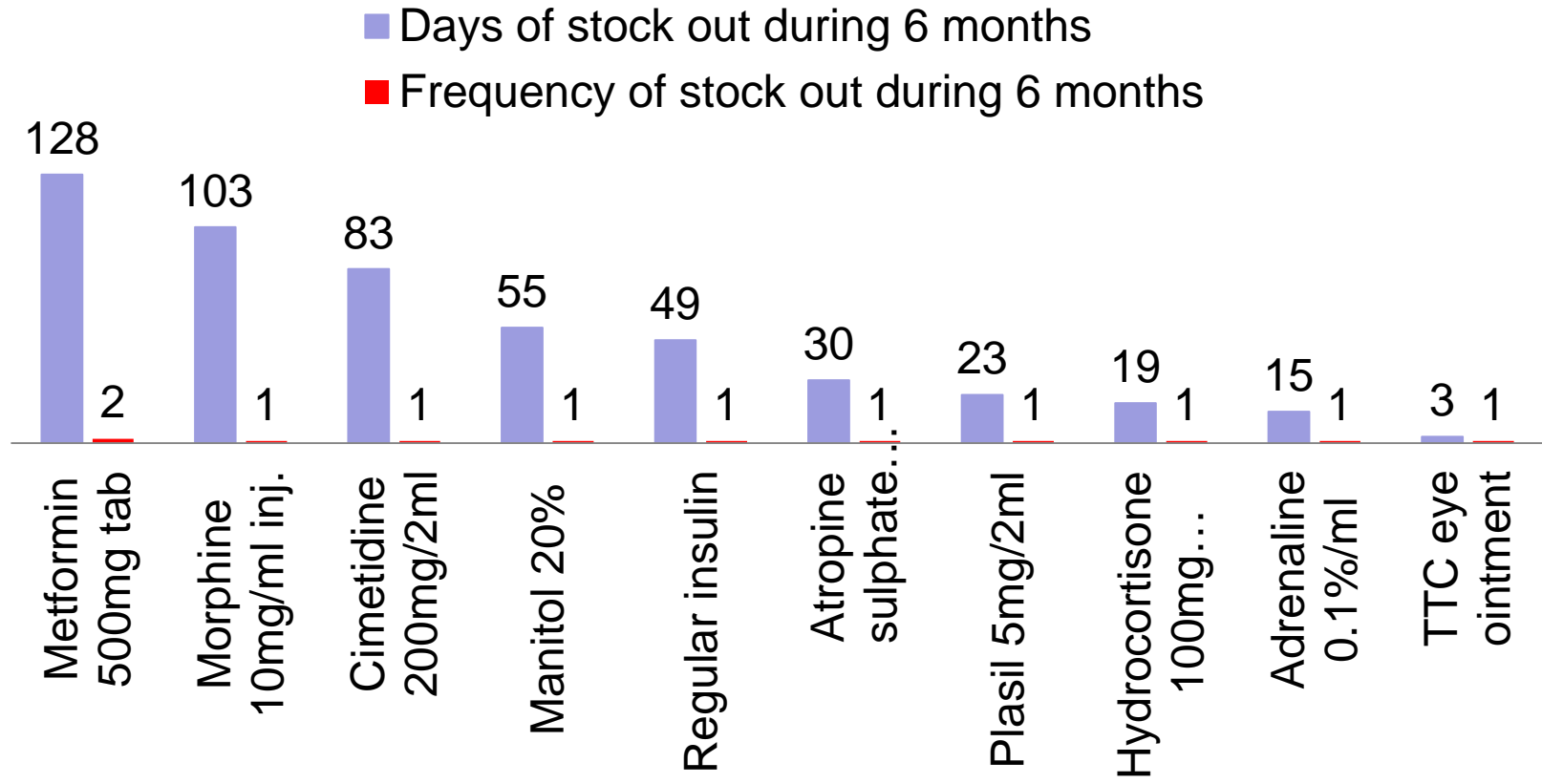


Results- Stock out

Stock out during 6 months (N=30 medicines)



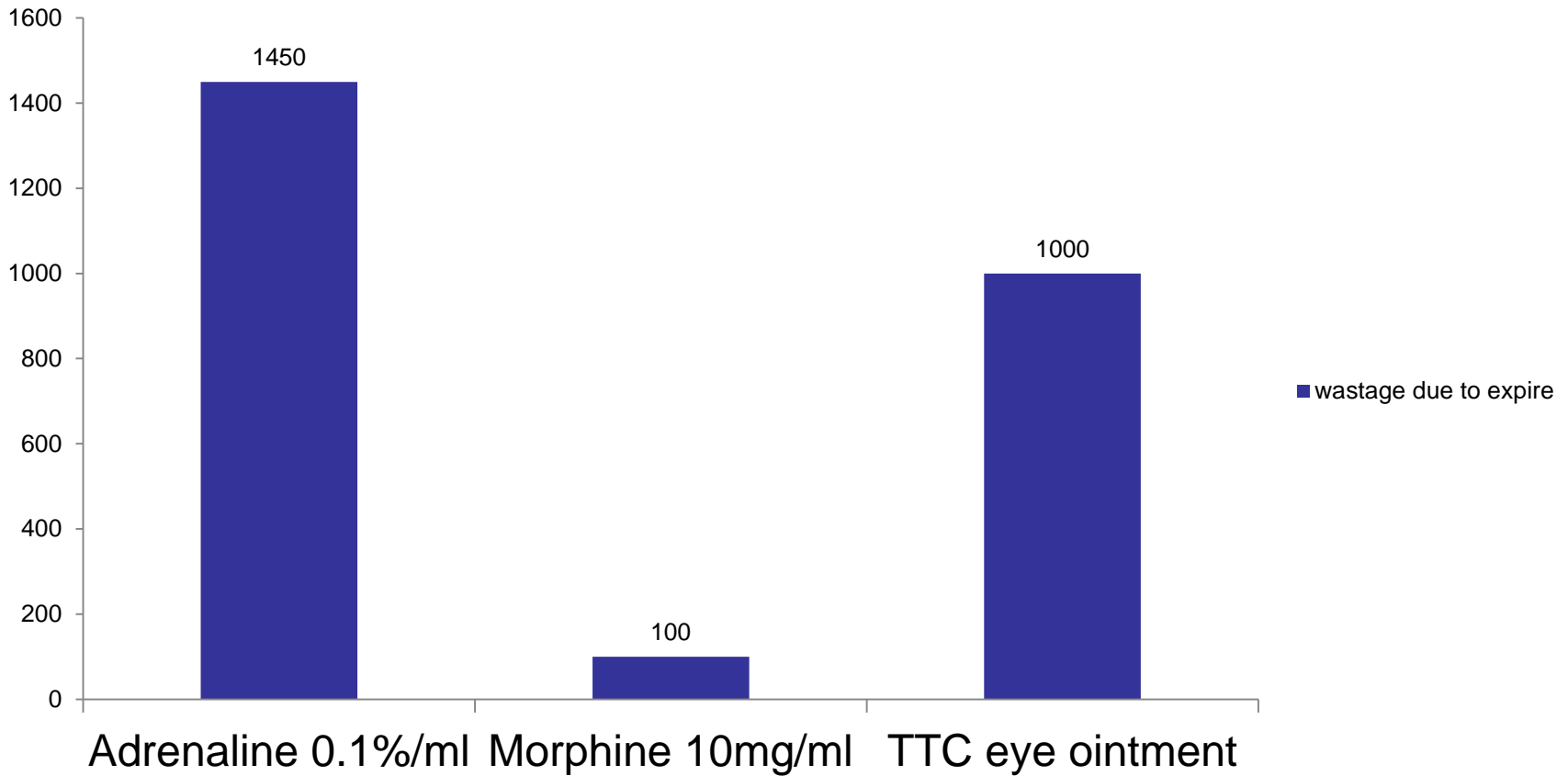
Results- Stock out---cont'd





Results- Expire of Medicines

Expired Medicines





Conclusion

- Pharmaceutical SC performance of TASH was found to be encouraging but not performing as desired level but. It received 62.2% of its medicines request.
- Long and frequent stock out of medicines was still a challenge. In addition, lack of efficient utilization of pharmaceutical budgets; weak evidence based selection and quantifications of pharmaceuticals were also reported as challenges of the supply chain.



Recommendations

- Provide training to DSM case team of the hospital pharmacy and managers of the Hospital on how to measure and interpret results of pharmaceutical SCM performance .
- Also, diversify the involvement of various expertise across the supply chain as appropriate to leverage coordinate
- Involve stakeholders and partners in the program planning and budgeting of the hospital and mobilize funding for commodity procurement
- Enter long term agreement with carefully selected private supplier(s) to supply medicines which are frequently stockout or not supplied by PFSA



References

- Aronovich, Dana, Marie Tien, Ethan Collins, Adriano Sommerlatte, and Linda Allain. 2010. *Measuring Supply Chain Performance: Guide to Key Performance Indicators for Public Health Managers*. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 1.
- FMOH 2015. Health Sector Transformation Plan (2015/16 - 2019/20).
- TADEG, H., EJIGU, E., GEREMEW, E. & A., A. 2014. Auditable Pharmaceutical Transactions and Services (APTS): Findings of the Baseline Assessment at Federal, Addis Ababa, and Teaching Hospitals. Arlington, VA: Submitted to the US Agency for International Development by the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) Program.
- Shewarega, Abiy, Paul Dowling, WelelawNecho, Sami Tewfik, and YaredYiegezu (2015). Ethiopia: National Survey of the Integrated Pharmaceutical Logistics System. Arlington, Va.: USAID | DELIVER PROJECT, Task Order 4, and Pharmaceuticals Fund and Supply Agency.



Thank you!!!