



# The Agreement

between

## Hospital Formulary and The Medicines Prescribed

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in St. Vincent a Paulo Catholic Hospital

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## Background

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- Hospital formulary is an information resources that provides medicines and regimen monograph reflecting a range of drug approved for prescribing within the hospital.
- The formulary was created to ensure patients receive high quality, cost-effective, and rational drug therapy.



## Objective

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- To review the agreement between medicines prescribed for inpatients and the hospital formulary



## Method

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- This retrospective study involved 120 medical records of inpatients during December 2006, which was a 10% of random sample.
- The type of drugs prescribed along with their dosage forms were observed and compared to the hospital formulary.
- The associations between “agreement/disagreement to the formulary” and patients’ characteristics (“patients’ age” or “patients’ room grade”) were analysed using chi-square tests.
- Among those which were not in agreement, then were grouped into active substance included or excluded from the formulary, and the associations with patients’ characteristics were tested using chi-square tests.

## Result

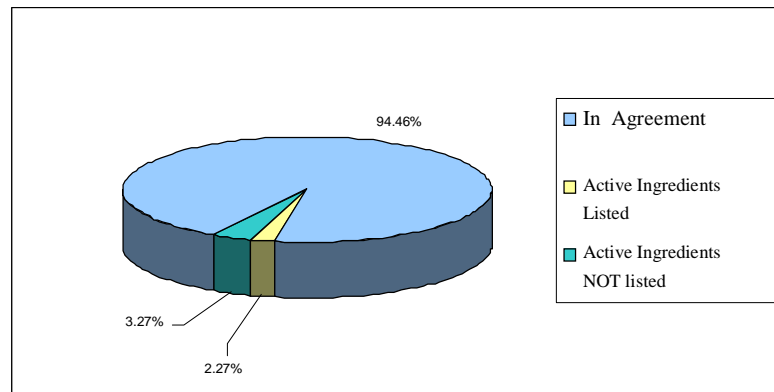
- The total medicines prescribed from 120 medical records were 1192.
- From which, 94.5% were in agreement with the hospital formulary.
- There were no associations between “agreement/disagreement to the formulary” with either patient’s age ( $p=0.242$ ) or patients’ room grade ( $p=0.213$ ).
- However, percentage of agreement tended to decrease with the higher grade of patients’ room. While among which were not in disagreement, groups of active substance included or excluded from the formulary did not show any significant associations with either “patients’ age” ( $p=0.185$ ) or “patients’ room grade” ( $p=0.690$ ).

**Table 1 Quantitative Medicines Prescribed in Agreement to The Hospital Formulary**

Agreement to Hospital Formulary	Number of Prescription	Percentage (%)
In Agreement	1126	94.46
Total	1126	94.46
NOT in Agreement :		
• Active ingredients listed in The Hospital Formulary	27	2.27
• Active ingredients NOT listed in The Hospital Formulary	39	3.27
Total NOT in Agreement	66	5.54
Total	1192	100.00

The 8th Asian Conference on Clinical Pharmacy: “Toward Harmonization of Education and Practice of Asian Clinical Pharmacy”

Fig.1 Percentage of Medicine which is in Agreement to Hospital Formulary



**Table 2 Number of Patient's Distribution according to Px's Room Grade**

Px's Room Grade	No of Px	Percentage (%)
VIP	3	2,50
Grade 1	31	25,83
Grade 2	43	35,83
Grade 3	43	35,83
Total	120	100,00

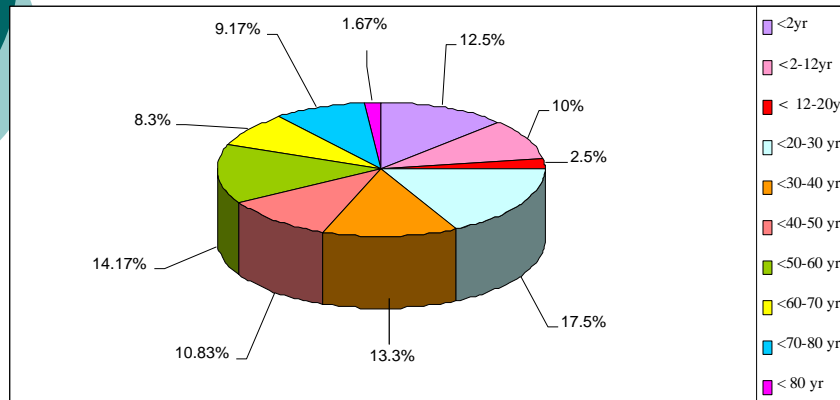
**Table 3 Average Number of Medicine Prescribed per patient according to Px's Room Grade**

Px's Room Grade	No of Pxs	No. of Medicines Prescribed	Average of Medicines Prescribed/ px
VIP	3	51	17.00
Grade 1	31	299	9.65
Grade 2	43	445	10.35
Grade 3	43	396	9.23
<b>Total</b>	<b>120</b>	<b>1192</b>	<b>9.93</b>

**Table 4 Distribution of Agreement between Medicine Prescribed and Hospital Formulary according to Px's Room Grade**

Category of Agreement	Kelas Perawatan							
	VIP		Kelas I		Kelas II		Kelas III	
	No. of Px	Percentage	No. of Px	Percentage	No. of Px	Percentage	No. of Px	Percentage
In Agreement	46	90.20	280	93.02	420	94.38	380	96.20
NOT in Agreement	5	9.80	21	6.98	25	5.62	15	3.80
<b>Total</b>	<b>51</b>	<b>100.00</b>	<b>301</b>	<b>100.00</b>	<b>445</b>	<b>100.00</b>	<b>395</b>	<b>100.00</b>

**Fig. 2 Distribution of Pxs according to age**



**Table 5 Average of Medicine Prescribed according to Age Category**

Age Category	No. Of Px	No of Medicines Prescribed	Average number of Medicine Prescribed
<2 tahun	15	95	6.33
≥2-12 tahun	12	93	7.75
≥12-20 tahun	3	22	7.33
≥20-30 tahun	21	168	8.00
≥ 30-40 tahun	16	179	11.19
≥ 40-50 tahun	13	135	10.38
≥ 50-60 tahun	17	212	12.47
≥ 60-70 tahun	10	139	13.90
≥ 70-80 tahun	11	129	11.73
≥ 80 tahun	2	20	10,00

**Table 6 Percentage of Med.Prescribed in Agreement to The Hospital Formulary**

No.	Age Category	No. of Medicine Prescribed in Agreement	No. Of Medicine Prescribed NOT in Agreement	No. of Medicine Prescribed	Percentage(%)
1	<2th	90	5	95	94.74
2	≥2-12th	85	8	93	91.40
3	≥12-20th	22	0	22	100.00
4	≥20-30 th	159	9	168	94.64
5	≥ 30-40 th	169	10	179	94.41
6	≥ 40-50 th	129	6	135	95.56
7	≥ 50-60 th	197	15	212	92.92
8	≥ 60-70 th	135	4	139	97.12
9	≥ 70-80 th	122	7	129	94.57
10	≥ 80 th	18	2	20	90.00
<b>Average number of Medicine Prescribed in Agreement</b>					<b>94.89</b>

**Table 7 Chi Square Test of Px's Room Grade vs Level of Hospital Formulary Agreement**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.467	3	.690
Likelihood Ratio	1.459	3	.692
N of Valid Cases	66		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 2.05.

Table 8 Chi Square Test of Group of Age vs Level of Hospital Formulary Agreement

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.825	3	.185
Likelihood Ratio	4.912	3	.178
Linear-by-Linear Association	4.722	1	.030
N of Valid Cases	66		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.32.

## Conclusion

- Most of the prescribed medicines in St. Vincentius a Paulo Hospital were in agreement with the hospital formulary.
- The agreement/disagreement were not related to patients' characteristics.