

Shimane University Hospital

Comparison between urban and rural university hospitals in Japan regarding incident reports including drug names

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Objectives

Although incident reporting is very useful for the purpose of securing patient safety, there are no previous studies comparing incident reporting data between university hospitals in urban and rural areas by extracting drug names from incident reports.

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Settings and Methods

Settings

Shimane University Hospital
Kyoto University Hospital

Periods

Shimane University Hospital:
April, '06 – March, '08; 2,816 reports
Kyoto University Hospital :
May '04 – August, '05; 3,087 reports

Methods

From these incident reports, we extracted drug names including formal and informal names (e.g., abbreviations), and analysed differences between medical incidents.

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Shimane Prefecture in Japan

Location
Shimane Prefecture is situated in the south-west of Honshu, Japan's largest island, and facing onto the Japan Sea to the north. Between 40 and 80 Kilometers north of the Shimane coastline are the Oki Islands and further afield are the Korean Peninsular and the Russian Primorsky Territory. Due to its geographical proximity with China and the Korean Peninsular, Shimane once played an important role as a conduit with those countries in the formation of the ancient Japanese state.

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Kyoto City in Japan

Location
Kyoto is located in the mid of Honshu, which is the biggest island of Japan, and it can be reached within two and half an hour by Shinkansen from Tokyo. Having been the capital of Japan for more than a thousand years after 794, Kyoto has many cultural sight-seeing spots which the Japanese take pride in. Over 250 shrines, as many as 1,600 temples and other cultural properties of the long history of the city impress visitors. Kyoto also boasts several excellent museums, including the Kyoto national Museum.

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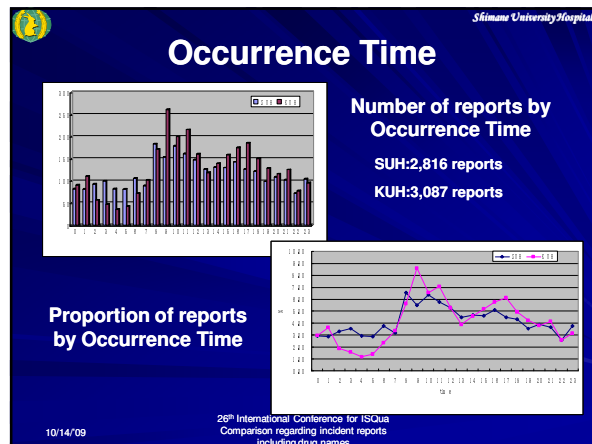
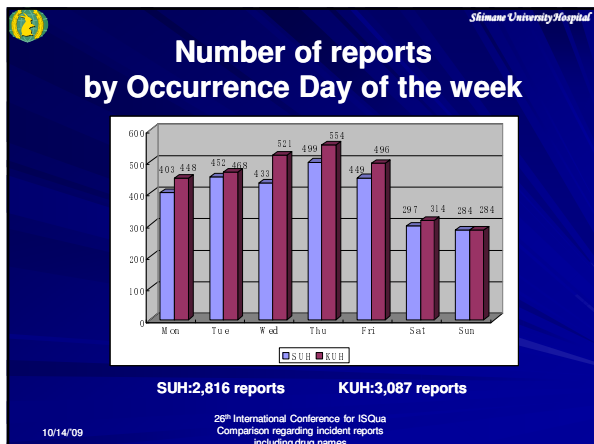
Overview of both Hospitals' Activity

	Shimane Univ. Hosp. (2007)	Kyoto Univ. Hosp. (2007)	(2004)*
Number of beds	616	1,182	1,240
Number of In-patients/day	504.1	991.4	998.0
Length of hospital stay/day	18.5	14.9	24.6
Number of Out-patients/day/day	972.3	2,512.0	2,336.0
Number of physicians	455	564	356
Number of registered nurses	389	1,041	764
Number of all staff	1,195	2,382	1,971

* National university hospitals have been promoting the increase business efficiency, as a part of administrative reforms and reducing medical expenditure under the supervision of Japan's government.

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Shimane University Hospital		Kyoto University Hospital	
April, 2006 – March, 2008 on-line reporting system		March, 2004 – August, 2006 paper based reporting system	
Medication treatment and Nursing care	831	IV/DIV	923
Drugs and Blood transfusion	662	Medication	769
Medical devices, drains and tubes	617	Slip/Falls	455
Surgery, treatment and procedures	241	Surgery	191
Instructions and Information	182	Lab test	185
Others	283	Others	574
	2,816		3,087

This table indicates the top five ranking procedures according to each hospital's incident report event codes. KUH implements its original code at that time and SUH does the code of data gathering of incident reporting at national level. Both codes are different each other. Anyway, the incident reports involving drugs constituted a large proportion of the reports received.

Result

	SUH		KUH	
	2,816	Rate	3,087	Rate
All incident reports	2,816		3,087	
Central Nervous System Drugs	244	8.7	163	5.3
Peripheral Nervous System Drugs	16	0.6	12	0.4
Cardiovascular Drugs	86	3.1	130	4.2
Gastro-intestinal Drugs	46	1.6	106	3.4
Respiratory Drugs	21	0.7	28	0.9
Hormones and other endocrine Drugs	42	1.5	83	2.7
Anti-infective Drugs	53	1.9	106	3.4
Drugs affecting coagulation	116	4.1	73	2.4
Anti-diabetic Drugs	156	5.5	89	2.9
Anti-Neoplastic Drugs	31	1.1	59	1.9
Opiates	75	2.7	63	2.0

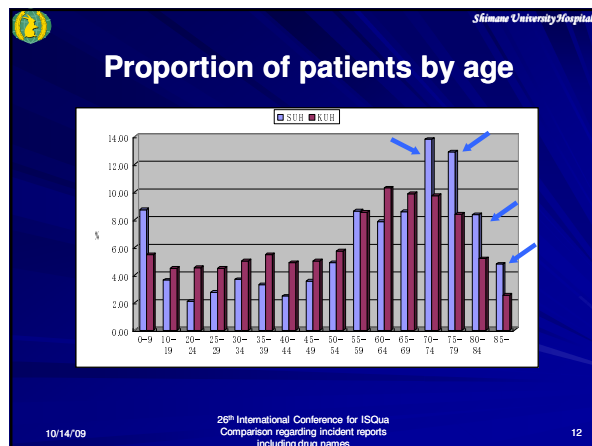
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Results

- Some classified drugs at KUH appeared more than those at SUH, and *vice versa*.
- There were especially more incident reports involving CNS drugs, Drugs affecting coagulation, Anti-diabetic drugs, and Opiates at SUH than at KUH.
- There were some findings regarding the use of CNS drugs, Cardiovascular drugs, antibiotics, and anti-diabetic drugs in both universities. For example, CNS drugs featured much more at SUH than at KUH, because the proportion of the elderly people to inpatients at SUH may be much more than at KUH. Furthermore, total amount of antibiotics have been coming down from the viewpoint of cutting medical cost.

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Conclusion

- Different areas in Japan might lead to these results, and we believe deeper analyses can be conducted along this theme. Furthermore, it would be very important for junior residents and new nursing staff to be taught with emphasis that the drugs indicated above through residency and education programs have a higher tendency to be involved with errors. The drugs involved will be discussed with specificity during our presentation.

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Other findings 1

- IV/div: medication= 436: 353
- Generic drug names: insulin 101, heparin 91
- Concrete brand names:
 - ① Atarax-P (hydroxidine pamoate): 33
 - ② NovoRapid: 13
 - ③ Veen 28/ Veen-3G 3/ Veen-D 13/ Veen-F 13: 57
 - ④ Soldem 25/ Soldem-1 2/ Soldem-3A 21: 48
 - ⑤ Serenace (haloperidol): 25
 - ⑥ Dormicum (midazolam): 13

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Other findings 2

- Doctors: Nurses= 44: 789
- Doctor:
 - ① heparin (anticoagulant): 4
 - ② Flumarin, FMOX, flomoxef (antibiotics):3
 - ③ Famotidine, Pepcid, Gaster (H2 blocker): 3
- Nurses:
 - ① insulin: 40, ② heparin: 32,
 - ③ Predonine, predonisolone : 26,
 - ④ Lasix 20, ⑤ MS Contin (morphine sulfate) 16,
 - ⑥ Solita 16, ⑦ Humalin 15, ⑧ Inovon 15,
 - ⑨ Dormicum (midazolam) 13

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