

Analysis of Patient Safety Culture and Patient Safety Indicators: A Nationwide Safety Survey in Taiwan


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Overview of Taiwan



- Area: 36,188km²
- Population: 23 million
- GDP per capita: US\$16,030
- National Health Insurance Coverage: >99%
- Life expectancy at birth M: 74.6 y F: 80.8 y

Approx. 525 hospitals



Taiwan Joint Commission on Hospital Accreditation (TJCHA)


- Established in 1999
- A Not-for-Profit, Non-Governmental Organization
- Promoting quality and patient safety in healthcare
- Accredited by ISQua since 2006 / 2007
 - organization
 - standards





Survey Objective


- To study the correlation between **Patient Safety Culture (PSC)** and **Patient Safety Indicators (PSI)**
- **PSIs** are lag indicators at this moment
- If there is correlation between **PSC** and clinical outcomes, then
 - **PSC** can be developed as lead indicators
 - we can encourage hospitals to focus more on positive **PSC**



Method / Data source

Conducted by Taiwan Joint Commission on Hospital Accreditation

- **PSC – Patient Safety Culture**
 - A self-report perception survey
 - Tool: Safety Attitudes Questionnaire (SAQ-Taiwanese version, authorized)
- **PSI – Patient Safety Indicators**
 - Hospitals report 10 **PSIs** from their existing indicator systems
 - Collected from January to June in 2008
- **Object – 84 medium-large hospitals in Taiwan**
 - Individuals in specific units, e.g., ICU, ED, etc.




Comparing Culture Surveys

Table 1 Patient safety climate surveys: summary of characteristics

Name of survey	SOAPS		PSCHO		VHA PSCQ		HSOPS		CSS		SAQ		SCS		MSSA		HTSSCS	
	General	General	General	General	General	General	Multiple	With	Multiple units	Pharmacy	Transfusion	Multiple	With	Multiple units	Pharmacy	Transfusion		
Setting appropriate for use	General	General	General	General	General	General	Multiple	With	Multiple units	Pharmacy	Transfusion	Multiple	With	Multiple units	Pharmacy	Transfusion		
To be completed by individuals	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	No	Yes	No	Yes	No	Yes		
No. of items (demographic not included)	58	82/92	71	42	34	40	19	194	27									
Use 5-point Likert scale	Yes	Yes	Yes	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Measures implementation of actions	Yes	No	No	No	No	No	No	No	Yes	No	Yes	No	Yes	No	Yes	No		
Common dimensions covered																		
Leadership	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Policies and procedures	Yes	Partial	Yes	Yes	Partial	Yes	Partial	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Staffing	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Communication	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Reporting	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Total no. of dimensions	9	5-11(6)	13	12	4	6												
Psychometrics performed																		
Item analysis	No	Partial	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Exploratory factor analysis	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Confirmatory factor analysis	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Cronbach's alpha	No	0.45-0.90	0.63-0.83	"Poor"		0.68-0.81												
Test-retest reliability	No	No	No	No	Yes	Partial	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Combined composite scores across dimensions	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Analysis of variance across services	No	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Now used in studies	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Inter-institutional comparisons	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Intra-institutional comparisons	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Inter-industry comparisons	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Association with reporting rates	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No		
Association with process measures	No	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No		
Association with patient outcomes	No	No	No	No	No	No	No	No	Yes	No	No	No	No	No	No	No		
Pre + post intervention studies	Partial	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		

SAQ: 22 out of 23 characteristics


Qual. Saf. Health Care 2005;14;364-366



Safety Attitudes Questionnaire – Taiwanese version


Five domains, 26 questions

- Safety climate (SC)
- Teamwork climate (TC)
- Perception of management (PM)
- Working condition (WC)
- Job satisfaction (JS)




PSIs selected for Individual Units and Hospital-wide

- ICU:
 - Central line-associated bloodstream infection
 - Unscheduled returns to ICU within 24 hours
- Operating room:
 - Unscheduled returns to OR
- Emergency department:
 - Unscheduled returns to emergency room within 24 hours
- Pharmacy:
 - Ratio of prescription # and pharmacy manpower
 - Outpatient drug dispensing errors
- Inpatient care:
 - Inpatient falls
 - Inpatient medication errors
- Hospital-wide:
 - Incident reporting
 - Health care-associated infection




Data analysis

- PSC
 - Eliminate invalid data
- PSI
 - Delete 5 % of each top and bottom data
- Scoring
 - Agree strongly
 - Agree slightly
 - Neutral
 - Disagree slightly
 - Disagree strongly
- Positive response rate (PRR)
 - Includes only “agree strongly” and “agree slightly”
 - Not include “neutral” or “disagree”



Results


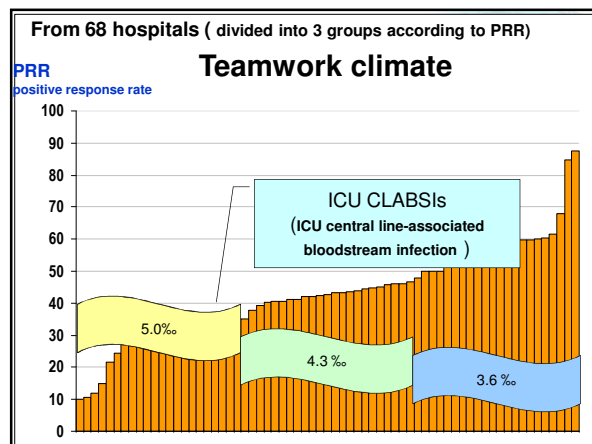
- 82 hospitals responded
- 34,980 valid PSC Questionnaires were collected
- Return rate was 71%

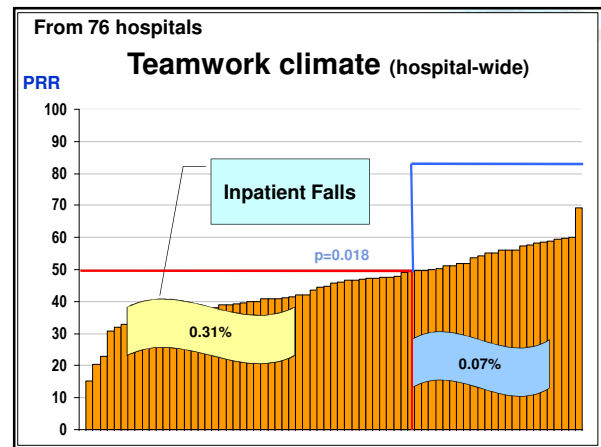
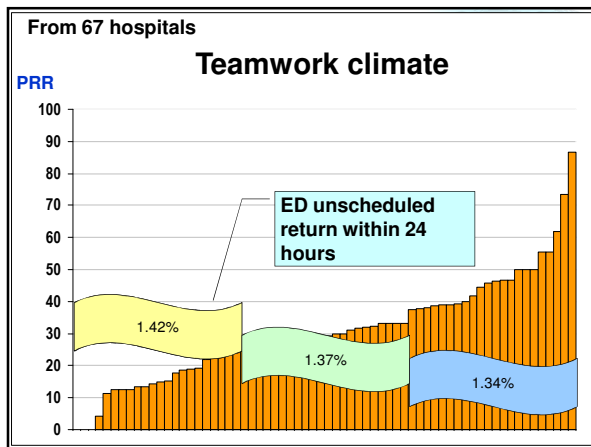
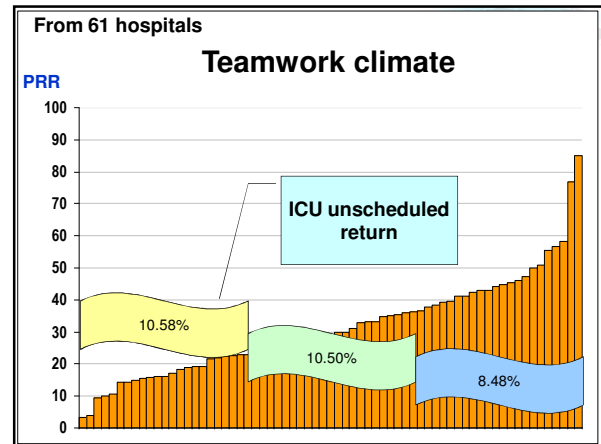
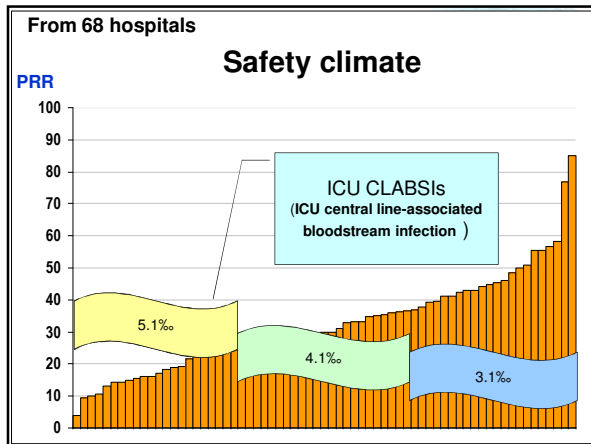


Results- Correlation of PSC and PSI

There are 4 clinical indicators correlated to teamwork climate and patient safety climate

	PSC	Teamwork Climate	Patient Safety Climate
PSI			
ICU CLABSIs		○	○
ICU unscheduled return		○	
ED unscheduled return		○	
Inpatient falls		○	



Conclusions

- There is some correlation between PSC and clinical outcomes
- Positive teamwork and safety climate enhance safe care
- PSC survey can be considered as a proactive measurement for identifying quality improvement opportunities
- It is worthwhile to establish a common PSC survey platform, a system to assist hospitals in survey and analysis of patient safety culture

Taiwan Patient Safety Culture Survey System - Established by Taiwan Joint Commission

病安文化調查系統

問卷內容: 2009年-病安文化

問卷編號: Q019

TEST

調查日期: 2009/10/06

1.請就下列問題給出您的選擇，在您的單位不同用處請由左至右選擇不同用處

Question	加護病房	手術室	急診	藥房	病房	護理	兒科病房	精神科病房
1. 主要工作單位(除急診室外主要花費最多時間的工作單位)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. 本單位對員工的意見可以充分傳達	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. 在本單位與護理人員談話時，我不會說出	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. 本單位可以妥善解決護理人員的意見(例如：不是針對護理，而是針對護理人員)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. 在照顧病人時，我可以充分得到所需的支援	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. 在本單位工作如果沒有明顯的地方很容易可以離開	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. 在本單位醫師與護理人員是一體同心協力的工作團隊	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. 如果我是病人，我認為在護理會感到十分安全的照顧	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. 在本單位醫師與護理人員會妥善地處理	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Thank you

Taiwan Joint Commission on Hospital Accreditation

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財團法人醫院評鑑暨醫療品質策進會
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