Additional materials not included in the article

Appendix 1: Doctors allocated to different service arenas (%)

Characteristics	Second Outpatient Department	First Outpatient Department
Qualification		
Master degree or higher	43.1%	41.2%
Bachelor degree	56.9%	58.8%
Specialty		
General Internal Medicine	33.3%	35.3%
Surgery	13.9%	11.8%
Gynecology	11.1%	5.9%
Pediatrics	8.3%	11.8%
Traditional Chinese Medicine	8.3%	11.8%
Others (Dental, Dermatology, Eye, ENT)	25.0%	23.5%

Appendix 2: Nurses allocated to different service arenas (%)

Characteristics	Second Outpatient Department	First Outpatient Department
Qualification		
Bachelor degree	8.3%	7.7%
Associate degree	38.3%	42.3%
Vocational certificate	53.3%	50.0%
Professional title		
Chief nurse	15.0%	11.5%
Registered nurse	25.0%	26.9%
License nurse	60.0%	61.5%
Duties		
Triage and assist in treatment	75.0%	73.1%
Injection and intravenous drips	25.0%	26.9%

Appendix 3: Demographic characteristics of respondents (n=318)

Characteristics		Count	N %
Age (years)	<35	172	54.1%
	35-	92	28.9%
	45-	49	15.4%
	Missing	5	1.6%
Sex	Male	75	23.6%
	Female	218	68.6%
	Missing	25	7.9%
Sub-profession	Doctor	125	39.3%
	Nurse	88	27.7%
	Other health worker	51	16.0%
	Administration/management	50	15.7%
	Missing	4	1.3%
Direct contact with patient	Yes	290	91.2%
	No	13	4.1%
	Missing	15	4.7%
Qualification	Up to high school or equivalent	29	9.1%
	Associate degree	101	31.8%
	Tertiary degree	181	56.9%
	Missing	7	2.2%
Years of working in the hospital	Up to 5	129	40.6%
	6-10	81	25.5%
	11-	106	33.3%
	Missing	2	0.6%
Years of working in current unit	Up to 5	161	50.6%
	6-10	83	26.1%
	11-	71	22.3%
	Missing	3	1.0%
Average weekly workload (hours)	Up to 39	26	8.2%
	40-59	220	69.2%
	60-	58	18.2%
	Missing	14	4.4%
Years of working in health industry	Up to 5	86	27.1%
	6-10	85	26.7%
	11-	132	41.5%
	Missing	15	4.7%

Appendix 4: Interview guidelines for health workers

1. How do you think about the safety of patients in your unit?
    a. If you think you are doing well, why and how do you know?
    b. If you don't think you are doing well, why and how do you know?
2. What are the major errors causing safety problems in your unit?
    a. Who are responsible for the errors?
    b. Do you think the errors preventable? If yes, why and how? If not, why?
3. What measures have you taken to ensure the safety of patients? Could you please give examples?
    a. Policy?
    b. Reporting?
    c. Learning?
    d. Administration?
    e. Others?
4. How are these measures working?
    a. Role of managers?
    b. Role of care providers?
    c. Role of patients?
5. Could you please tell us how you personally involved in patient safety management?
    a. When you make mistakes, do you report? Why?
    b. How do you respond when you find others doing things wrong?
    c. How do you discuss with patients about adverse events?
6. What are your concerns about the patient safety measures in your unit?
7. If a patient raised questions about their care plan, how do you deal with it?
8. If a patient does not want to follow your instruction, what do you do?
9. What training do you think you need to improve the quality of care and safety of patients?
10. How can your organisation do better in patient safety?

Appendix 5: Interview guidelines for patients

1. What services did you get from your recent visit to the outpatient department?
    a. For what reasons?
    b. Are you happy with the services? Why?
    c. Did you get any other services from other health organisations for the same health problems? When and Why?
2. Why do you choose this particular clinic?
    a. What do you think about the quality of services provided by the clinic?
    b. How do you know?
    c. Who referred you?
3. Medical services sometimes do harm to patients, but it is not necessarily an error from medical providers. Did you have any concerns about your safety when you visited the clinic?
    a. What are your concerns?
    b. How do you know?
    c. What have you done to make sure you are safe?
    d. What do you think you can do better to ensure your safety?
    e. What do you think the clinic can do (or do better) to ensure your safety?
4. How did your doctor or nurse discuss with you about the potential adverse impact of your services?
    a. Have you noticed that before?
    b. Did you understand?
    c. How did you make the final decisions?
5. Have you experienced or noticed any safety problems in your recent visit to the clinic?
    a. Who do you think should be responsible for the problems?
    b. Do you think the problems preventable? If yes, why and how? If not, why?
    c. How did the clinic respond to the problems?
    d. Are you happy with way the clinic handle these problems? Why?
6. What measures are you most impressed in relation to patient safety?
    a. What was it?
    b. Who did it? How?
    c. Why are you impressed?
7. Have you been consulted about how to improve services?
    a. What advices have you provided?
    b. Do you think they are considered by the clinic?
8. How do you think the clinic can do better in patient safety?

Appendix 6: Characteristics of interview participants

Characteristics		Number of participants		
		Patient	Frontline health worker	Manager
Age	<40	10	12	4
	≥40	12	3	8
Sex	Men	8	5	4
	Women	14	10	8
Area of service	Internal	8	-	-
	Surgery	2	-	-
	Gynaecology/Obstetrics	1	-	-
	Paediatrics	2 (parents)	-	-
	Others	9	-	-
Profession	Doctor	-	6	-
	Nurse	-	4	-
	Other health worker	-	5	-
	Clinical manager	-	-	9
	Hospital manager	-	-	3
Work experience	<5 years	-	2	0
	5-9 years	-	2	1
	≥10 years	-	11	11

Appendix 7: Factors associated with patient safety culture: results from multivariate stepwise regression analysis (standardised β coefficients with statistical significance, *p*<0.05)*

		Frequency of Events Reporting (n=247)	Overall Perceptions of Patient Safety (n=244)	Manager Expectations and Actions Promoting Patient Safety (n=249)	Organisational Learning (n=246)	Teamwork Within Units (n=248)	Communication Openness (n=248)	Feedback and Communication About Error (n=243)	Staffing (n=247)	Non-punitive Response to Error (n=245)	Management Support for Patient Safety (n=243)	Teamwork Across Units to Patient Safety (n=247)	Handoffs and Transitions (n=247)
Number of events personally reported		0.180						0.131		0.118			
Personal rating on patient safety of units			0.398	0.316	0.193	0.155	0.309	0.342	0.354	0.153	0.494	0.304	0.344
Weekly workload	<40			0.154	0.246								
	40-59			0.302	0.174							0.154	0.200
(Reference)	60 or more												
Profession	Nurse			0.118				0.120					
	Doctor									-0.134			
	Other health worker												-0.169
(reference)	Administration/ management												
Age	<35											-0.140	
	35-44												
(Reference)	45-												
Qualification	Tertiary degree												
	Tertiary certificate/diploma	0.132											
(reference)	No tertiary certificate/diploma												
Setting	Clinic Two						-0.123		0.182	0.160	0.238	0.268	0.206
(reference)	Clinic One												

*: A standardised β coefficient indicates the increase or decrease (-) effect on a mean dimensional score associated with a particular characteristic of the respondents (measured by the independent variables).

Appendix 8: Individual preference on reporting errors, number (percentage)

Statement	Disagree	Neutral	Agree	Total
I would disclose errors committed by myself	23 (7.6%)	68 (22.5%)	211 (69.9%)	302 (100.0%)
Sometimes I did not disclose my errors because of fear of				
Being looked down on by others	71 (45.2%)	49 (31.2%)	37 (23.6%)	157 (100.0%)
Being criticised by superior	46 (27.7%)	54 (32.5%)	66 (39.8%)	166 (100.0%)
Being punished such as financial penalty	60 (22.1%)	80 (29.4%)	132 (48.5%)	272 (100.0%)
I would disclose errors committed by my colleagues	63 (36.4%)	52 (30.1%)	58 (33.5%)	173 (100.0%)
Sometimes I did not disclose colleague errors because				
I had no obligation to do so	50 (29.8%)	55 (32.7%)	63 (37.5%)	168 (100.0%)
My colleagues might notice who reported	40 (23.1%)	51 (29.5%)	82 (47.4%)	173 (100.0%)
I did not want to be seen as a whistle blower	35 (18.8%)	46 (24.7%)	105 (56.5%)	186 (100.0%)
I would disclose management errors	40 (14.4%)	84 (30.3%)	153 (55.2%)	277 (100.0%)
Sometimes I did not disclose management errors because				
I had no obligation to do so	42 (25.3%)	70 (42.2%)	54 (32.5%)	166 (100.0%)
Manager might be offended	37 (22.3%)	65 (39.2%)	64 (38.6%)	166 (100.0%)
This attracted no solution	42 (2.1%)	55 (28.9%)	93 (48.9%)	190 (100.0%)
I would disclose my errors if no penalty is attached	43 (15.0%)	92 (32.2%)	151 (52.8%)	286 (100.0%)
Sometimes I did not disclose my errors because I had no confidence in no penalty policy	31 (18.3%)	73 (43.2%)	65 (38.5%)	169 (100.0%)
I would be willing to use an anonymous reporting system	48 (15.9%)	64 (21.2%)	190 (62.9%)	302 (100.0%)

Appendix 9: Comparison of average positive scores of HSOPC subscales across different weekly workloads

	Less than 40 hours (1)		40-59 hours (2)		60 hours or more (3)		*p* value of ANOVA	Pairwise comparisons (LSD) $p<0.05$
	Mean	SE	Mean	SE	Mean	SE		
Frequency of Events Reported	0.40	0.08	0.39	0.03	0.34	0.06	0.687	
Overall Perceptions of Patient Safety	0.44	0.05	0.55	0.02	**0.45**	0.04	0.015	(3) vs (2)
Influence of Manager's (Supervisor's) Expectations and Actions Promoting Patient Safety	0.68	0.05	0.73	0.02	**0.44**	0.05	0.000	(3) vs (2) (3) vs (1)
Strength of Organisational Learning	0.81	0.05	0.74	0.02	**0.57**	0.05	0.000	(3) vs (2) (3) vs (1)
Quality of Teamwork Within Units	0.90	0.04	0.86	0.02	**0.78**	0.03	0.039	(3) vs (2) (3) vs (1)
Communication Openness	0.36	0.06	0.31	0.02	0.28	0.04	0.454	
Feedback and Communication About Error	0.58	0.06	0.64	0.02	**0.49**	0.05	0.016	(3) vs (2)
Non-punitive Response to Error	0.28	0.06	0.32	0.02	**0.20**	0.03	0.037	(3) vs (2)
Adequacy of Staffing to Support Good Patient Care	0.18	0.05	0.24	0.02	0.17	0.03	0.094	
Senior Management Support for Patient Safety	0.60	0.06	0.58	0.02	**0.35**	0.05	0.000	(3) vs (2) (3) vs (1)
Contribution of Teamwork Across Units to Patient Safety	0.54	0.07	0.63	0.02	**0.38**	0.05	0.000	(3) vs (2)
Safety of Handoffs and Transitions	0.44	0.07	0.55	0.02	**0.27**	0.04	0.000	(3) vs (2) (3) vs (1)

Bold: The dimensional score with a significant difference with one or more others across different workload groups

Appendix 10: Inter-correlations of the HSOPC subscales of patient safety culture

Subscales	Mean (95% CI)	Pearson Correlation Coefficients											
		1	2	3	4	5	6	7	8	9	10	11	12
1. Frequency of Events Reported	0.38 (0.34-0.43)	1											
2. Overall Perceptions of Patient Safety	0.52 (0.49-0.55)	.08	1										
3. Manager Expectations and Actions Promoting Patient Safety	0.66 (0.62-0.70)	.12*	**.32****	1									
4. Organisational Learning	0.71 (0.68-0.87)	.16**	.26**	**.31****	1								
5. Teamwork Within Units	0.85 (0.82-0.87)	.09	.13*	**.40****	**.37****	1							
6. Communication Openness	0.31 (0.28-0.34)	.22**	.27**	**.35****	.18**	.20**	1						
7. Feedback and Communication About Error	0.61 (0.57-0.65)	**.34****	.20**	**.44****	.28**	.29**	**.46****	1					
8. None-punitive Response to Error	0.23 (0.20-0.25)	.05	.18**	.29**	.12*	.18**	.15**	.15**	1				
9. Staffing	0.29 (0.26-0.33)	.07	**.37****	**.34****	.25**	.21**	.20**	**.30****	**.33****	1			
10. Management Support for Patient Safety	0.53 (0.49-0.57)	.17**	**.36****	**.49****	**.35****	.27**	**.36****	**.34****	.19**	**.45****	1		
11. Teamwork Across Units	0.57 (0.53-0.61)	-.01	.28**	**.47****	.29**	.24**	.24**	**.32****	.24**	**.36****	**.56****	1	
12. Handoffs and Transitions	0.48 (0.44-0.52)	-.01	**.32****	**.42****	.16**	.10	.20**	.26**	.18**	**.33****	**.48****	**.57****	1

*: Correlation is significant at the 0.05 level (2-tailed).

**: Correlation is significant at the 0.01 level (2-tailed).

95% CI: 95% Confidence Interval

Bold: Medium correlations with a coefficient greater than 0.3. As is indicated in shadowed cells, most of them fall into Subscale 3 and 10.