

Supplementary Appendix A EFA results

Items	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Remark	
C1	0.821														Relabel as knowledge	
C2	0.974															
C3	0.719															
C4		0.598														Relabel as typing skills
C5		0.883														
SQ1			0.730												System quality	
SQ2			0.655													
SQ3			0.882													
SQ4			0.873													
SQ5			0.753													
SQ6			0.554													
SQ7			0.790													
SQ8			0.820													
SQ9			0.640													
IQ1				0.907											Information quality	
IQ2				0.962												
IQ3				0.637												
IQ4				0.798												
IQ5				0.860												
IQ6				0.795												
IQ7				0.728												
ServQ1					0.780										Service quality	
ServQ2					0.919											
ServQ3					0.862											
ServQ4					0.861											
ServQ5					0.631											
T1						0.682									Training	
T2						0.830										
T3						0.995										
T4						0.884										
T5						0.536										

(Continued)

Supplementary Appendix A (Continued)

Items	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Remark
TW1							0.735								Teamwork
TW2							0.896								
TW3							0.885								
TW4							0.568								
OR1								0.504							Organization resources
OR2								0.980							
OR3								0.862							
OR4								0.536							
TS1									0.721						Task
TS2									0.825						
TS3									0.720						
TS4									0.757						
TS5									0.775						
V1										0.522					Vigilance
V2										0.573					
V3										0.693					
CP2										0.691					
CP3										0.639					
WP1										0.716					Procedure compliance
WP2										0.735					
CP1											0.463				
WP3											0.650				
WP5											0.558				
W4												0.661			Workarounds
W5												0.473			
NB1													0.718		Relabel as patient safety
NB2													0.791		
NB3														0.698	Relabel as patient-care quality
NB4														0.780	
NB5														0.926	

Abbreviation: EFA, exploratory factor analysis.

Supplementary Appendix B Final SafeHIT items

Code	Items
HIT knowledge	
C1	As a user of HIT in this hospital, I understand all functions dedicated for me in the HIT. ^a
C2	As a user of HIT in this hospital, I know to use all the functions dedicated to me in the HIT to perform my task. ^a
C3	As a user of HIT in this hospital, I consider my knowledge on HIT to be good enough to use HIT appropriately. ^a
Typing skill	
C4	As a user of HIT in this hospital, I can type at the same time having eye contact and interaction with a patient. ^a
C5	As a user of HIT in this hospital, I can type fast. ^a
System quality	
SQ1	HIT of this hospital is easy to use.
SQ3	Routine tasks can be performed in a straightforward manner using the HIT.
SQ4	HIT of this hospital is well designed to allow me to enter comprehensive information. ^a
SQ5	HIT of this hospital uses terms that are clear and easy to understand.
SQ6	HIT of this hospital uses consistent words, terminology, and sequence of action. ^a
SQ7	HIT of this hospital responds quickly enough to inputs.
SQ8	HIT of this hospital fit my actual work practice and workflow. ^a
SQ9	HIT of this hospital provides an adequate function to support my work.
Information quality	
IQ1	HIT of this hospital provides complete information.
IQ2	HIT of this hospital provides information that I exactly need.
IQ3	HIT of this hospital presents information in a useful format.
IQ5	HIT of this hospital provides accurate and reliable information.
IQ6	HIT of this hospital provides up-to-date information.
IQ7	HIT of this hospital provides timely information.
Service quality	
ServQ1	IT support staff of this hospital is always willing to help users.
ServQ2	IT support staff of this hospital gives prompt service to users.
ServQ3	IT support staff of this hospital has the knowledge to do their job well.
ServQ4	IT support staff of this hospital performs continuous updates and maintenance of the HIT.
ServQ5	IT support staff of this hospital performs continuous maintenance of hardware related to the HIT.
Organization resources	
OR1	This hospital has enough department staff to handle the workload.
OR2	This hospital has enough computers and laptops that are functioning well.
OR3	This hospital provides high-speed computers and laptops to access the HIT. ^a
OR4	I have enough time to complete patient-care tasks safely.
Training	
T1	As a user of this hospital, I am provided with adequate training on HIT.
T2	As a user of this hospital, there is periodic HIT training to update my knowledge.
T3	As a user of this hospital, training was provided for new procedure or improvement of the HIT.
T4	As a user of this hospital, training provided appropriate skills and experience for safe use of HIT.
T5	As a user of this hospital, I know how to respond in the event of system downtime.
Teamwork	
TW1	As an employee of this hospital, it is easy for me to ask questions when there is something that I do not understand.
TW2	As an employee of this hospital, I received clear instruction from my team partner. ^a

(Continued)

Supplementary Appendix B (Continued)

Code	Items
TW3	As an employee of this hospital, employees in this department coordinate well with each other.
TW4	As an employee of this hospital, there is good cooperation among hospital departments.
Task-related stressor	
TS1	As an employee of this hospital, I am often pressed for time.
TS2	As an employee of this hospital, my work is often delayed because of having too much to do.
TS3	As an employee of this hospital, I often work at several tasks simultaneously and jump back and forth between these tasks.
TS4	As an employee of this hospital, I often think of many different issues while doing work.
TS5	As an employee of this hospital, I often have to interrupt my current work because of colleagues and patients.
Vigilance	
V1	I give adequate attention to complete my task properly. ^a
V2	I perform double check despite having limited time. ^a
V3	I make sure that I sign all my notes in the HIT. ^a
CP2	I double check the information carefully every time after copying and pasting a new entry in the HIT. ^a
CP3	I always update the related information after copying and pasting a new entry in the HIT. ^a
WP1	I always read the appeared alert in the HIT carefully. ^a
WP2	I use an appropriate function to perform a particular task in the HIT. ^a
Workarounds	
W4	I rely on my memory when performing task in the HIT. ^a
W5	I only refer to the HIT when handing over task rather than communicating verbally with my colleague. ^a
Procedure compliance	
CP1	I copy and paste the information from the HIT. ^a
WP3	I sometimes use my colleague login account to access the HIT. ^a
WP5	Under certain circumstance, I adopt shortcut and do not follow procedure when using the HIT. ^a
Patient safety	
NB1	As a HIT user of this hospital, I believe that using HIT has resulted in error toward patient harm for this department. ^a
NB2	As a HIT user of this hospital, I believe that it is just by chance that more serious mistakes do not happen around here.
Patient-care quality	
NB3	As a HIT user of this hospital, I believe that using HIT enhances the efficiency of my job. ^a
NB5	As a HIT user of this hospital, I believe that overall, using HIT improves the quality of patient care.

^aThe items originally contributed by the authors.