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STEP-UP with Nurses: Impact of a Peer-Led Post-Implementation EHR Educational Series (STEP-UP) on Nurses' EPIC Efficiency and their Perceived Benefits

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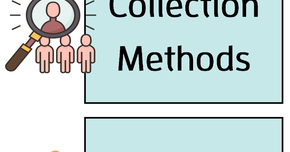
BACKGROUND AND HYPOTHESIS

Pre-implementation strategies are often deemed essential for a smooth Electronic Health Records (EHRs) transition.[1] However, the post-implementation phase is often overlooked despite its crucial role in sustaining adoption and optimising efficiency.[2]

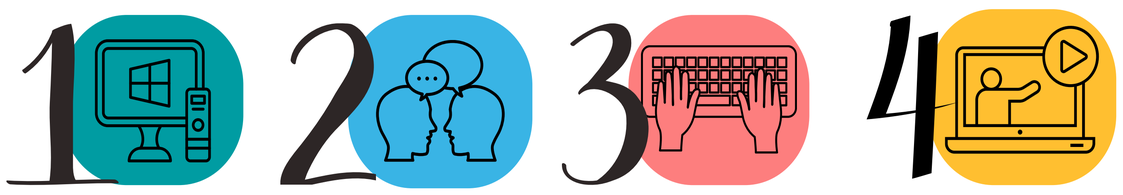


Peer-led teaching, which leverages shared clinical experience and cognitive congruence,[3] was hypothesized to improve nurses' EHR acceptance and efficiency.

METHODS

Intervention

STEP-UP (System Training for EPIC Proficiency – Unleashing its Potential), a peer-led educational program, was implemented at Tan Tock Seng Hospital from January to April 2025. The intervention consisted of four components.



1. Hospital-wide Virtual Sessions
2. Unit-based Discussions
3. Hands-on Practices
4. On Demand Intranet Learning

Data Collection

	Questionnaire	EPIC System Indicators
Collection Methods	Convenience sampling using a self-administered questionnaire	Retrospective data retrieval from medical records (EPIC)
Inclusion Criteria	Nurses who have attended at least one STEP-UP session	All inpatient nurses
Outcome Measures	1. Unified Theory of Acceptance and Use of Technology (UTAUT)[4] 2. Net Promoter Score (NPS)	1. Efficiency Tool Usage 2. Average time spent on EPIC
Analysis	One-way ANOVA, post-hoc test and descriptive analysis	Descriptive trend analysis of EPIC usage indicators

Table 1. Data collection and analysis

This quasi-experimental, one-group post-test only research design includes a questionnaire with an adapted UTAUT (15 items, five domains) to measure nurses' perceptions of EPIC and the NPS to assess satisfaction with STEP-UP. EPIC system indicators such as SmartLink usage and average time spent, were also analysed to evaluate system utilization and documentation efficiency.

DISCUSSION AND CONCLUSION

- STEP-UP significantly improve perceived user acceptance of EPIC. There was a greater acceptance with repeated session exposure.
- Increased in SmartLink usage indicates a strong uptake of efficiency tips.
- NPS indicates strong positive engagement among nurses.
- Reduced total time spent on EPIC indicates that there is greater efficiency in system usage.

These findings demonstrate that peer-led educational program bridges the gap between EHR implementation and optimal system utilization.

ACKNOWLEDGEMENT

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RESULTS

EPIC System Indicators

System utilization showed marked improvement, with Smartlink usage increasing from baseline (1155) to post-intervention (3810, +230%). The 6-month average EPIC active time per user per day decreased from 90.7 minutes (July to December 2024) to 88 minutes (January to June 2025) representing a 3.0% improvement in document efficiency.

Questionnaire

A total of 540 respondents were included in the study. Table 2 shows the participants' demographics and professional characteristics, highlighting the most represented category within each group.

	1 session (n=259) n (%)	2 sessions (n=182) n (%)	3 sessions (n=99) n (%)
Age			
31-40	97 (37.5%)	74 (40.7%)	51 (51.5%)
Designation			
Registered Nurse	184 (71.0%)	130 (71.4%)	69 (69.7%)
Working Experience			
1 to ≤ 6 years	118 (45.6%)	82 (45.1%)	43 (43.4%)

Table 2. Participant demographics and characteristics

One-way ANOVA (Welch's) was then conducted to examine differences across UTAUT domains, with significant improvements observed for overall UTAUT, effort expectancy, social influence, facilitating conditions, and behavioural intention (Table 3).

	F-value	df_1	df_2	p-value
Overall UTAUT	3.98	2	259	0.020*
Effort Expectancy	3.38	2	257	0.036*
Social Influence	3.50	2	254	0.032*
Facilitating Conditions	6.22	2	265	0.002**
Behavioural intention	4.51	2	271	0.012*
Performance Expectancy	1.33	2	256	0.266

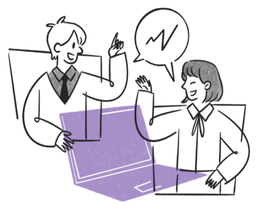
Note. * p < .05, ** p < .01, *** p < .001

Table 3. One-way ANOVA results across UTAUT domains

In addition, post-hoc analyses revealed that participants who completed all three sessions demonstrated significantly higher UTAUT scores than those who attended only one session (MD = 0.17–0.23, p < 0.05) across overall UTAUT and all subdomains, except for performance expectancy.

Next, we report participant satisfaction using the Net Promoter Score (NPS). Over 80% of participants rated 7 or above, and the overall NPS was 26.9%, which is considered favourable according to Bain & Company.[5]

IMPLICATIONS



1. Sustainable Dissemination through Peer Facilitation

Through peer facilitation, sustainable dissemination was achieved without the heavy reliance on central trainers. This helps to overcome resource constraints that is commonly seen in healthcare organisations.

2. Fostering a Culture of Continuous Digital Learning

Strong participant satisfaction highlight a shift towards continuous digital learning, positioning STEP-UP as a scalable model for nursing education and engagement with health technology.

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