

The Organizational Impact of Implementing Single-use Rhinolaryngoscopes, a UK and Ireland multicentre study

Health care professionals perceived single-use rhinolaryngoscopes to have a better organizational impact compared to reusable rhinolaryngoscopes in most categories

BACKGROUND AND OBJECTIVE:

Rhinolaryngoscopes (RLS), used for rhinolaryngoscopy, are classified as a semi-critical medical device. The need for reprocessing and repairs are avoided with single-use RLSs since they are disposed after each procedure. This study aimed to evaluate the organizational impact (OI) of single-use RLSs compared to reusable RLSs

METHOD: To investigate the OI, three surveys were administered to managers, clinicians, and nurses at five hospitals in the UK and Ireland. Preferences for a particular RLS or indifference were determined in ten categories of OI, and a Chi-square test was conducted to determine whether there were statistically significant differences.

RESULTS: A total of 156 participants responded to the survey. 21 managers, 74 clinicians, and 61 nurses from outpatient clinics, intensive care units (ICUs), emergency departments, and endoscopy units. In nine out of ten categories, single-use RLS had a better OI compared to reusable RLS. Of these, seven categories showed statistically significant results ($p < 0.05$) in favour of the single-use device. These categories were: 1) Patient pathway, 2) Type and level of involvement of the patient/carer, 3) Training requirement and skills, 4) Cooperation and communication mode, 5) Vigilance and monitoring method, 6) Working conditions and safety, 7) Logistics. Categories that were not statistically different included Patient flow, Budget allocation and Work process or health care production

Organizational Impact

Organisational Impact	Single-use	Neutral	Reusable	p-value
Work process or health care production	37	31	32	0.2602
Patient pathway	61	26	14	0.0001
Patient flows	35	36	30	0.6556
Type and level of involvement of the patient/ care	53	30	16	0.0005
Training requirement and skills needed	54	25	21	0.0001
Cooperation and communication modes	48	26	25	0.0076
Vigilance and monitoring method	49	35	16	0.0001
Working conditions and safety	60	29	11	0.0001
Budget allocation	48	24	29	0.1353
Logistics	57	22	22	0.0001

Table 1: Percentage of clinicians, nurses and managers (n=156) choosing either single-use, neutral or reusable rhinolaryngoscopes as having the most favorable OI within each category

Organizational Impact

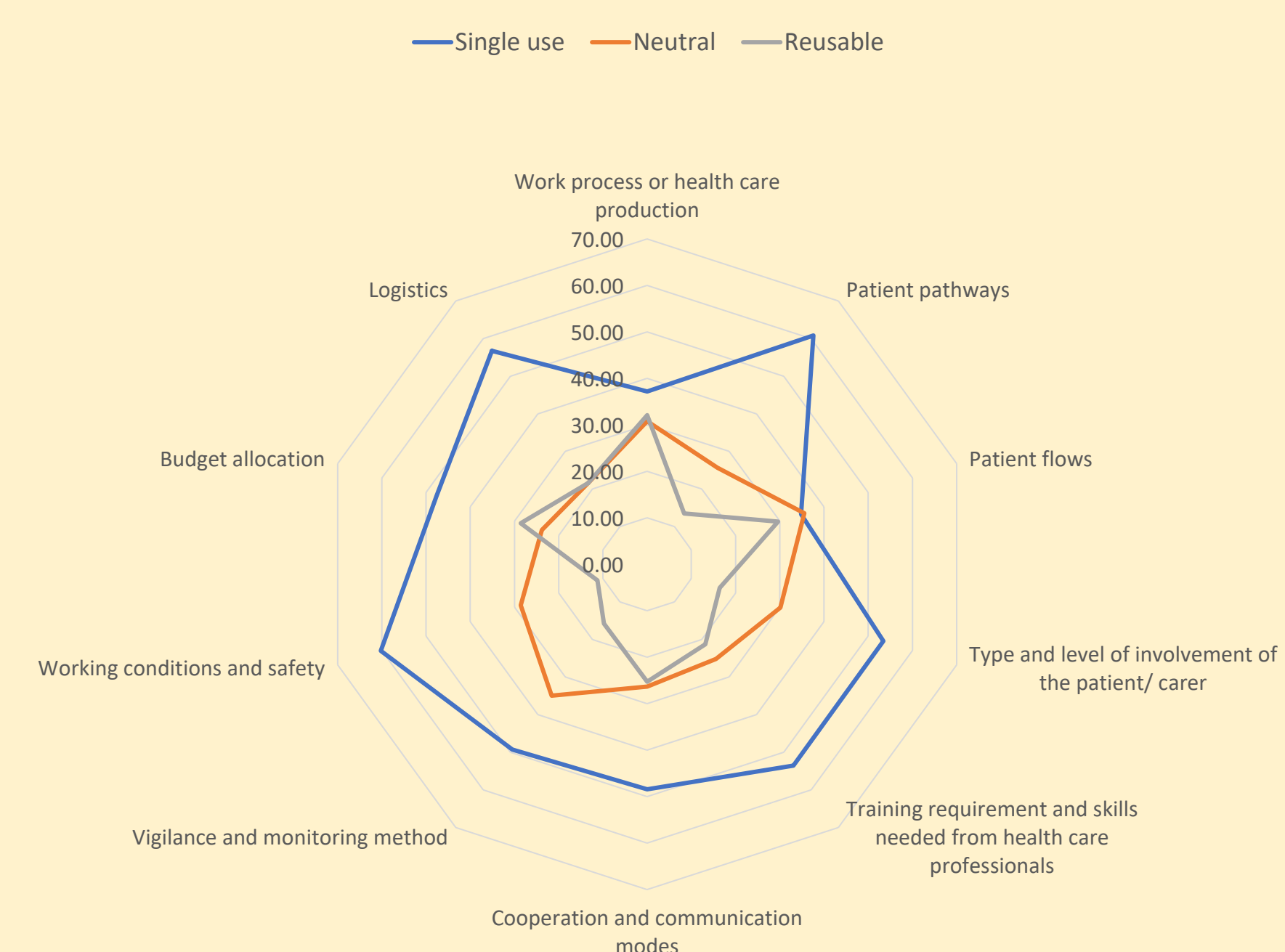


Figure 1: Spider diagram illustrating the percentage of clinicians, nurses and managers who favored either single-use (blue), reusable (grey), or remained neutral (orange) in each of the ten categories

Survey example

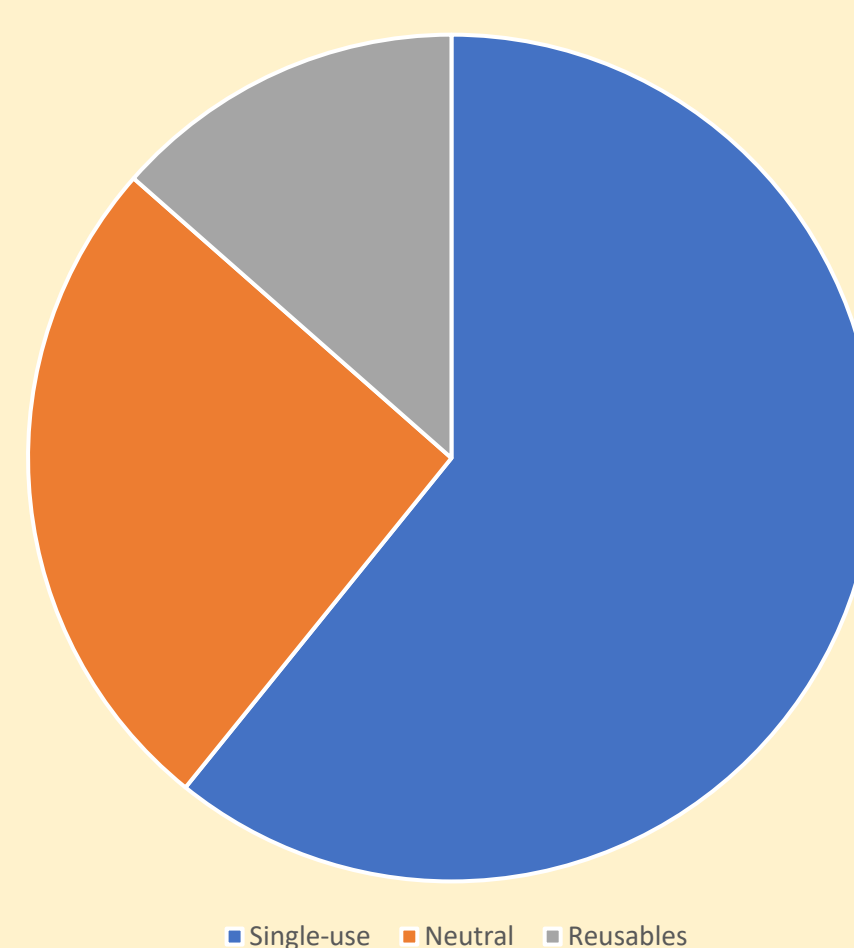


Figure 2: Example from survey with according preferences. The following question was included in the OI survey to clinicians: "When performing a rhinolaryngoscopy, when do you experience the least need for transportation of the rhinolaryngoscope to the patient or transport of the patient to the rhinolaryngoscope?"

Chart demonstrating the opinions of 74 clinicians on the organizational impact of single-use and reusable rhinolaryngoscopes. Out of the total sample, 61% (n=45) perceived single-use, 26% (n=19) were neutral and 13% (n=10) reusables when considering which scope led to the least need for transportation of the rhinolaryngoscope to the patient or transport of the patient to the rhinolaryngoscope

CONCLUSION: This study shows the potential organizational benefit associated with single-use RLSs.

SUMMARY

The multicentre study evaluated the organizational impact of reusable RLS in comparison to single-use RLSs. Three surveys were distributed to managers, clinicians, and nurses at five hospitals in the UK and Ireland. The results showed that single-use RLSs had better organizational impact in nine out of ten categories, with seven categories showing statistically significant differences in favor of single-use devices. The study concludes that there are organizational benefits associated with single-use RLSs