



Singapore Healthcare
Management 2019

Reduced Healthcare Cost via Evidence-Based Event Related Outdating System in Day Surgery Centre (DSC)

Lai, F.W., Leong, A.F.W., Theresa Chan, Tan S H
Day Surgery Centre, Perioperative Services
Khoo Teck Puat Hospital



1 Introduction & Background

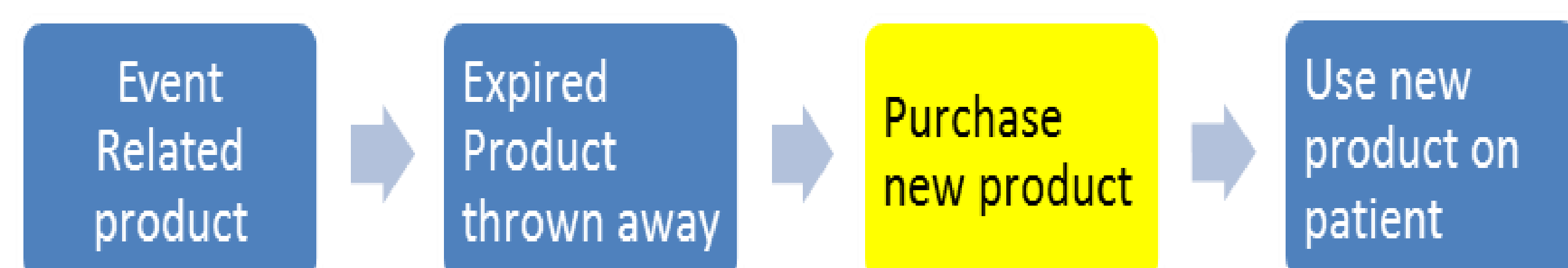
Event Related Management of Sterile Supplies refers to the procedures intended to maintain the sterility of the items until they are being used. **Event related expiry is based on the principle that specific events not time are responsible for sterile products becoming contaminated.**

2 Aim

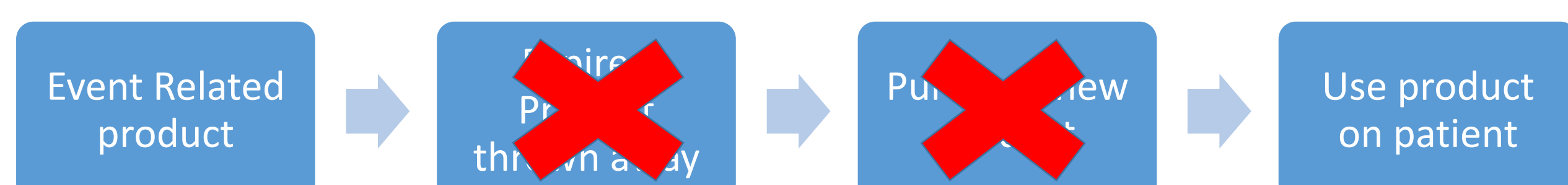
The team, **aimed to determine that sterile goods are still sterile and safe for patients' use beyond the predetermined expiry date.** Event-related outdating, can significantly reduce wastages caused by predetermined expiry.

3 Methodology

The team conducted a brainstorming session and carried out a review of the existing guidelines and current AORN standards on management of packed sterile consumables. The team sent two samples of expired consumables to PSB laboratory to check the sterility statuses. A same quantity of consumables are also sent to the PSB laboratory as control group.



As Is



To Be

Each sample cost **S\$15** (A) and **S\$78** (B). 16 pieces each were not used on patients due to their predetermined expiry. Total cost of the 16 “expired samples” are **S\$744**. The samples; **(A expired for 3 months & B expired for 3 years)** were acquired from storage area where temperature and humidity is kept under surveillance and were only handled by designated staff. Sterility validity testing and sterility testing was performed at the accredited laboratory, **using gold standards of measurement.**



Graph shows that the temperature monitored in the sterile store room is stable and within the controlled environment.

4 Results & Project Impact

Using direct transfer method coupled with controlled samples, test results **revealed that the “expired” samples remained sterile.** The cost-benefit analysis of the “expired” samples are unrivalled if they were utilized instead of being disqualified for use. .

TEST REPORT: 7191188599-CHM18-02-RC
27 JUN 2018

RESULTS

I. Sterility Check of Uninoculated Media

Test Media	Detection of Growth
Fluid Thioglycollate Medium (32.5°C for 14 days)	No growth
Soybean-Casein Digest Medium (22.5°C for 14 days)	No growth

Sterility Tests

Sample	Detection of growth in Fluid Thioglycollate Medium (32.5°C, 14 days)	Detection of growth in Soybean-Casein Digest Medium (22.5°C, 14 days)	Overall Results Pass / Fail
Prolene M8702	No growth	No growth	Pass

Sterility check results on samples

Sterility tests results on samples

Cost Savings

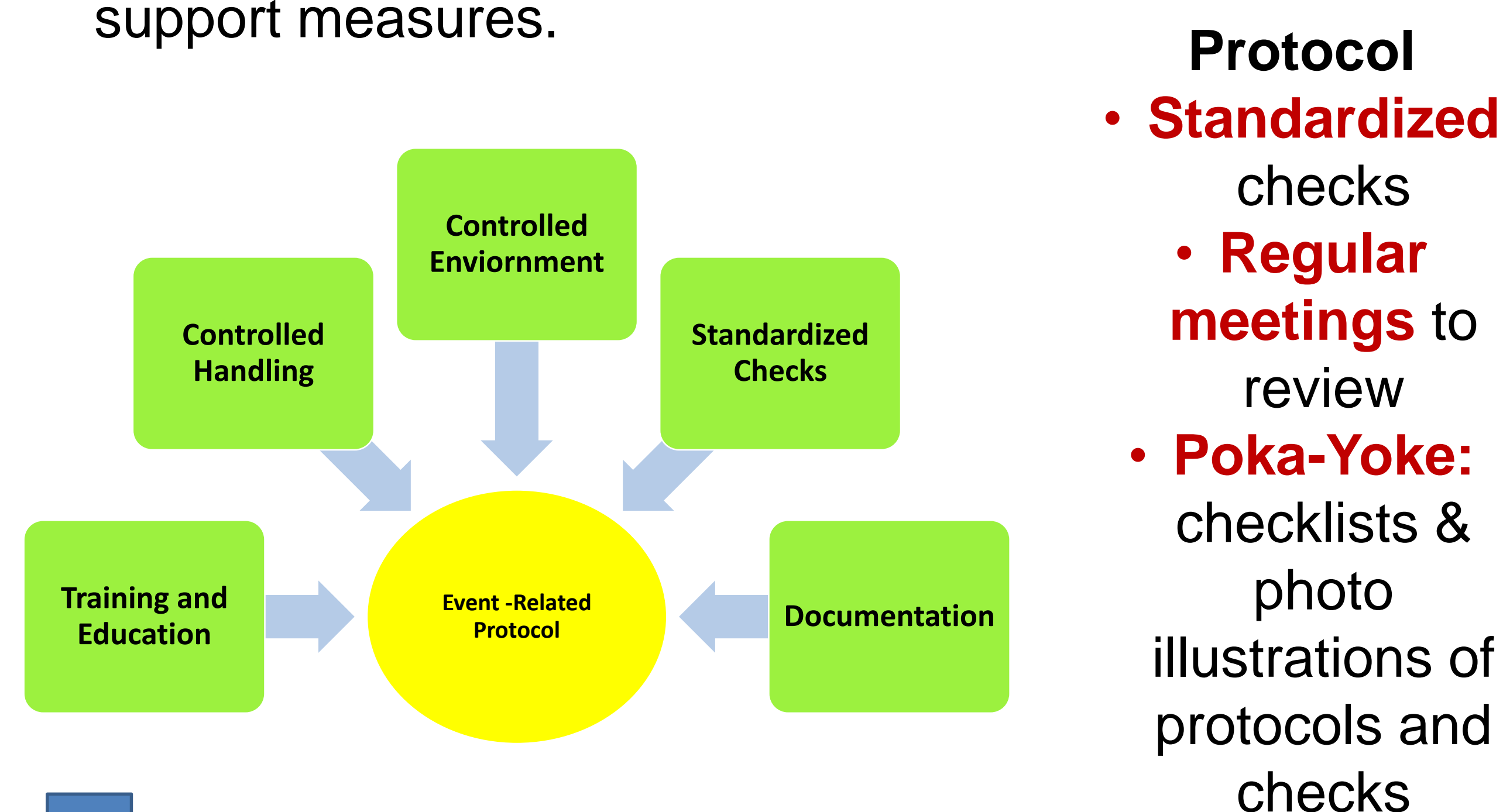
This practice will **add value by reducing the healthcare cost incurred through predetermined expiry. Significant labor and supply cost can be saved without compromising patient care.**

Time Savings

The time involved (including material cost; equipment facility cost; the efforts to re-pack, re-sterilize the product in designated time frame) **to re-process the expired product will be greatly reduced and staff could focus on other productive job functions.**

Shaping New Culture – A New Protocol

Event-related practice shaped the way we handle sterile product through - Controlled Handling, Controlled Environment, Transportation of Sterile Items and other support measures.



5 Sustainability

Critical factors such as storage space, environmental conditions, handling of packages and transportation methods needs to be consistently monitored and complied to the protocol. Standardized and regular checks and through risk management on critical factors such as, storage conditions, handling practices and knowledge of staff and monitoring processes needs to be set in place.

6 Conclusion

Event Related Outdating is a safe and economical way to reduce healthcare cost. It is easy to implement and sustain without compromising patient safety.