

## Mission Statement

Incontinence-Associated Dermatitis (IAD) is a skin inflammation caused by prolonged exposure to urine and/or stool. Patient often experience itching and excruciating pain and are at risk of urinary tract infection and chest infection.

This project aimed to:

- (1) Generate knowledge on effective IAD management and
- (2) Establish an evidence-based protocol of IAD care.

## Team Members

	Name	Designation
Team Leader	Chan Ee Yuae	Deputy Director Nursing
Team Members	Goh Cheng Cheng Karine	Senior Nurse Clinician
	Tan Ying Hua Grace	Nurse Educator
	Cheong Run Qi	Senior Staff Nurse
	George Glass	Nurse Researcher
	Tan Si Ling	Assistant Director Nursing

## Evidence for a Problem Worth Solving

IAD is prevalent in 20-30% of hospitalized inpatients. Currently no guide on its prevention and management. Better knowledge is needed on the most-suitable and cost-effective skin cleanser and protectant products. This can be translated into a care bundle for spread.

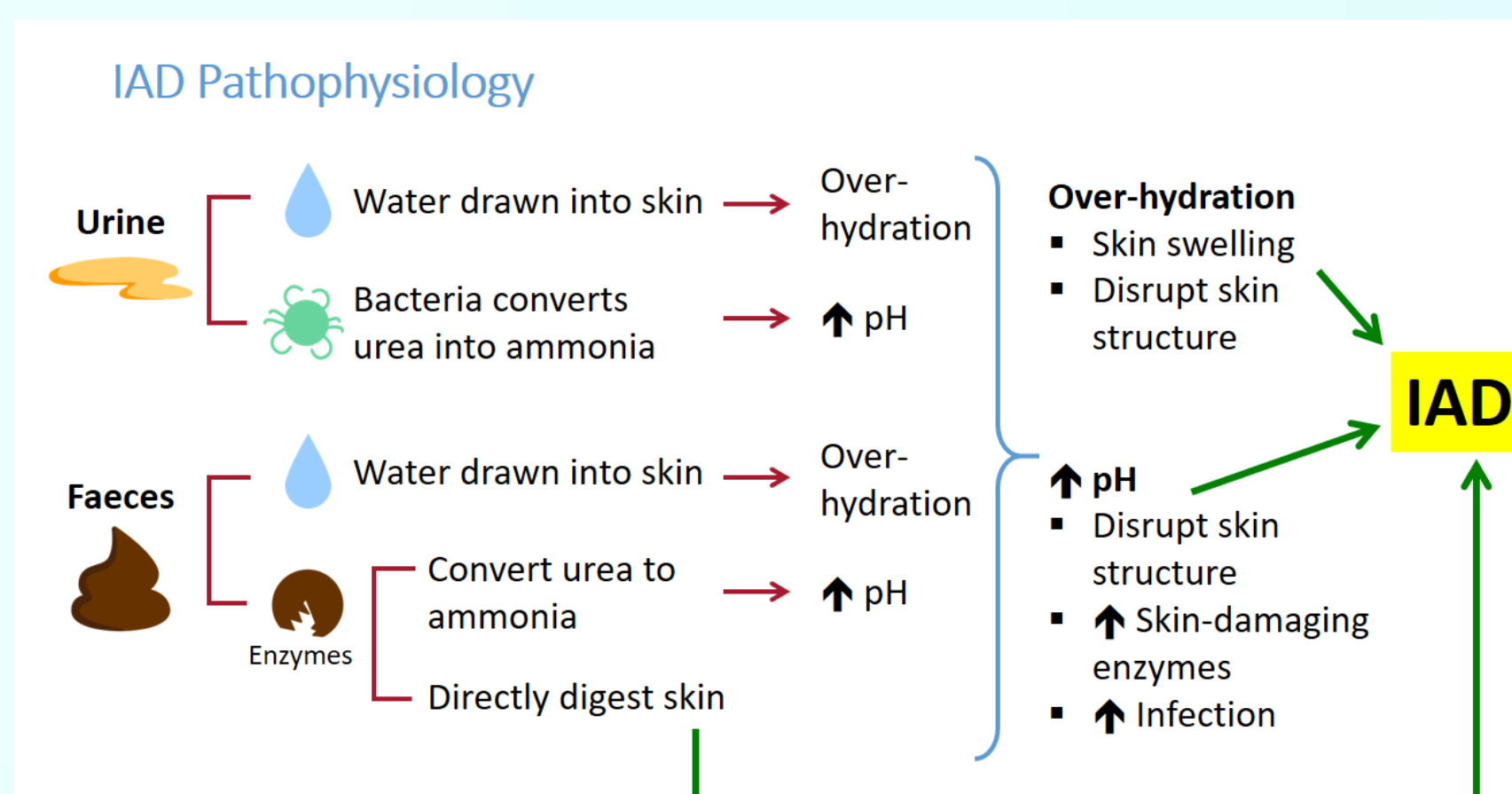


Figure 1: Pathophysiology of IAD

## Evaluation and Implementation

The project was split into 3 phases:

**Phase 1 :** Establishment of common-hospital content for education on IAD care.

**Phase 2 :** Cluster Randomised Trial in TTSH to evaluate effectiveness of 2 different cleanser and protectant regimens to standard care.

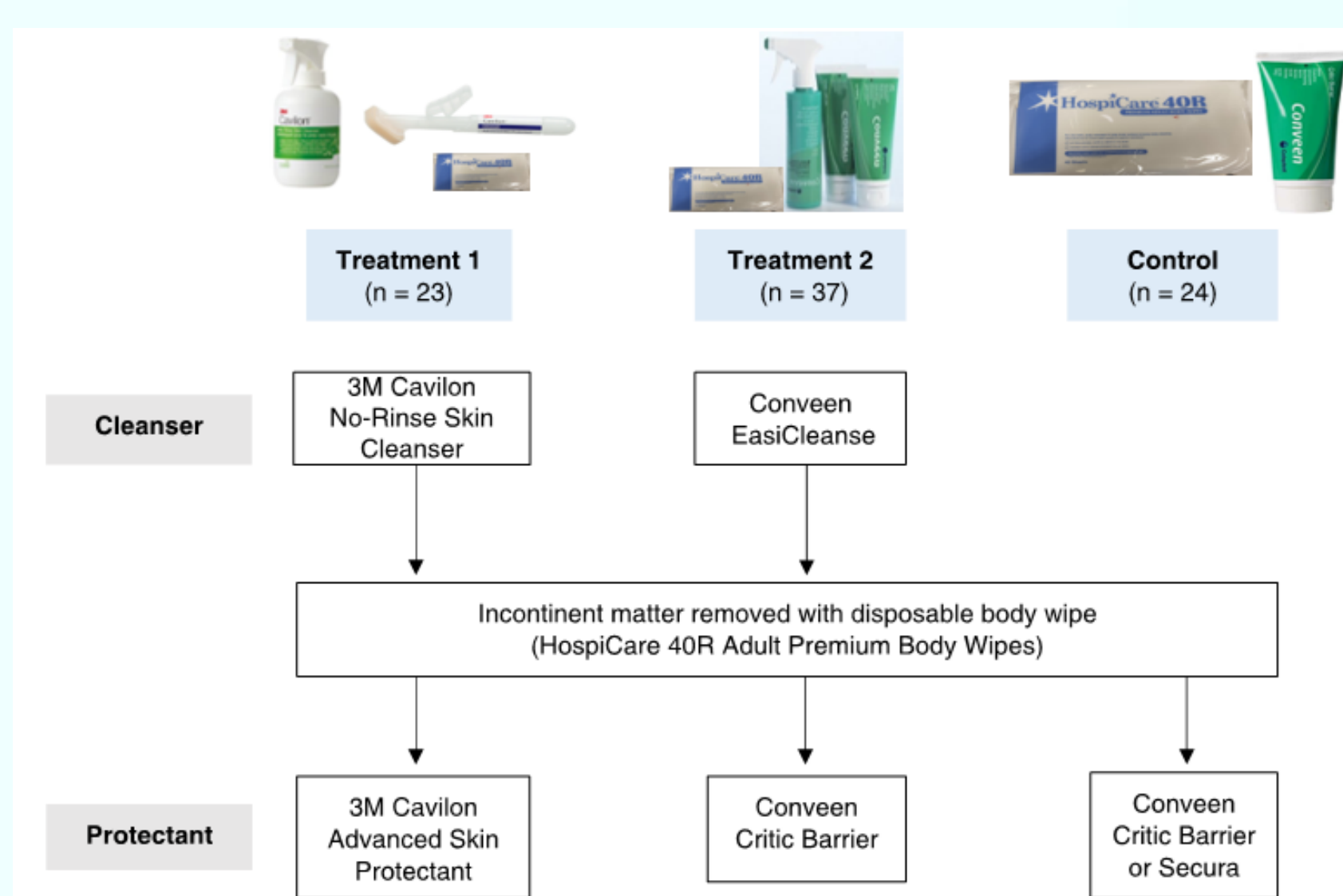


Figure 2: Treatment arms of clinical trial

**Phase 3:** Integration of findings and latest evidence into a comprehensive skincare bundle using the A.C.P.R.O. acronym for the prevention, identification and management of IAD in the inpatient setting.

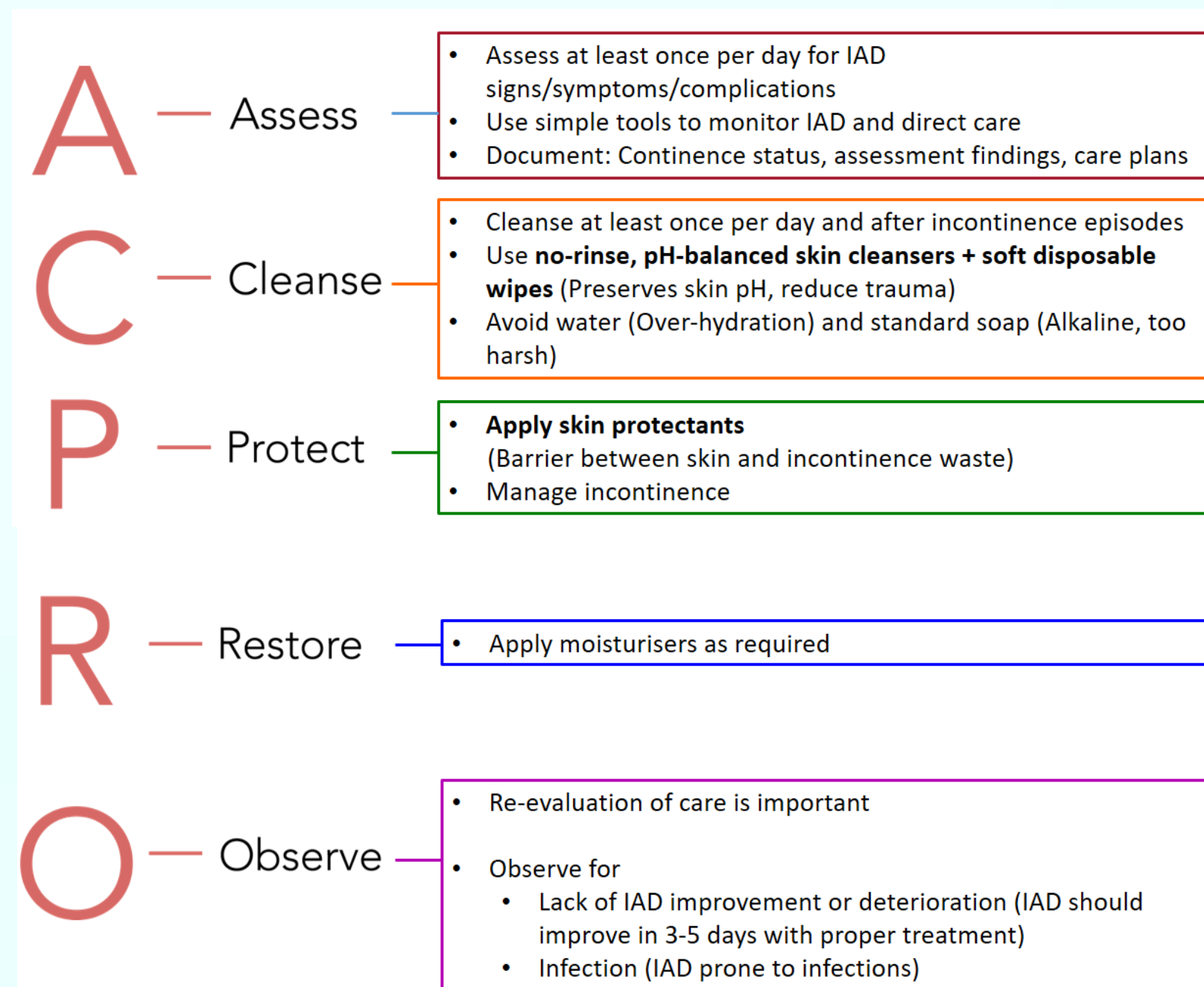


Figure 3: Breakdown of A.C.P.R.O. acronym

## References

1. Beekman et al. Incontinence associated dermatitis: moving prevention forward. Paper presented at the Proceedings of the Global IAD Expert Panel: Wounds International; 2015.
2. Beele H et al. Incontinence-associated dermatitis: pathogenesis, contributing factors, prevention and management options. *Drugs Aging*. 2018;35(1):1-10.
3. Glass GFJ et al. Effectiveness of skin cleanser and protectant regimen on incontinence-associated dermatitis outcomes in acute care patients: A cluster randomized trial. *International Wound Journal*. 2021; 18: 862-873

## Results

### Phase 1 – IAD Education Package for Nurses

A common electronic learning module was created to train nurses on identification, management and prevention of IAD. It is currently used by TTSH, NUH, YH, KTPH and SGH Nursing.

### Phase 2 – Effectiveness of IAD Bundle

Skin cleansers increased the likelihood of healing within 7 days by 50% when compared against standard care. User feedback was also positive on how the cleanser made it easier to deliver incontinence care.

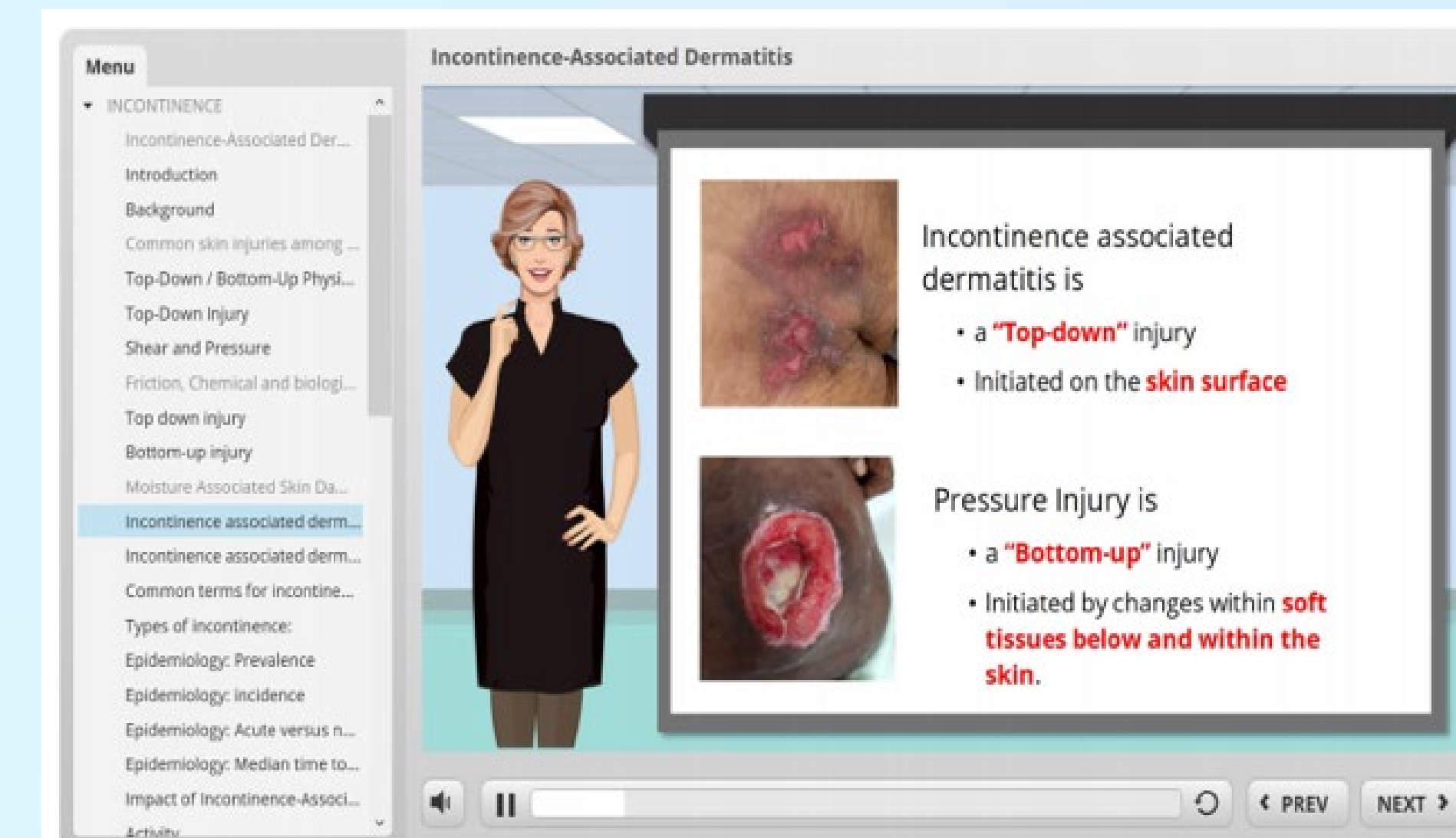


Figure 4: Sample of electronic learning module

"Having the cleanser is better. Easier to clean off faeces. It's like cleaning dirty windows... If no water, how to clean properly? The dirt will just smear back and forth"

"The spray makes it easier to clean off (stool)... Using wipes need to wipe harder. Sometimes the stool will stick onto the skin... (Without using the cleanser), it will cause a lot of pain to the patient"

Verbatim feedback from nurses

### Phase 3 – Implementation

From November 2021 to March 2022, a total of 5,026 bottles of skin cleanser solution have been deployed across the hospital as part of the A.C.P.R.O. bundle.

The A.C.P.R.O. bundle has become part of standard care for any patient with incontinence and at risk of IAD, helping to prevent the development of IAD and allow prompt treatment.

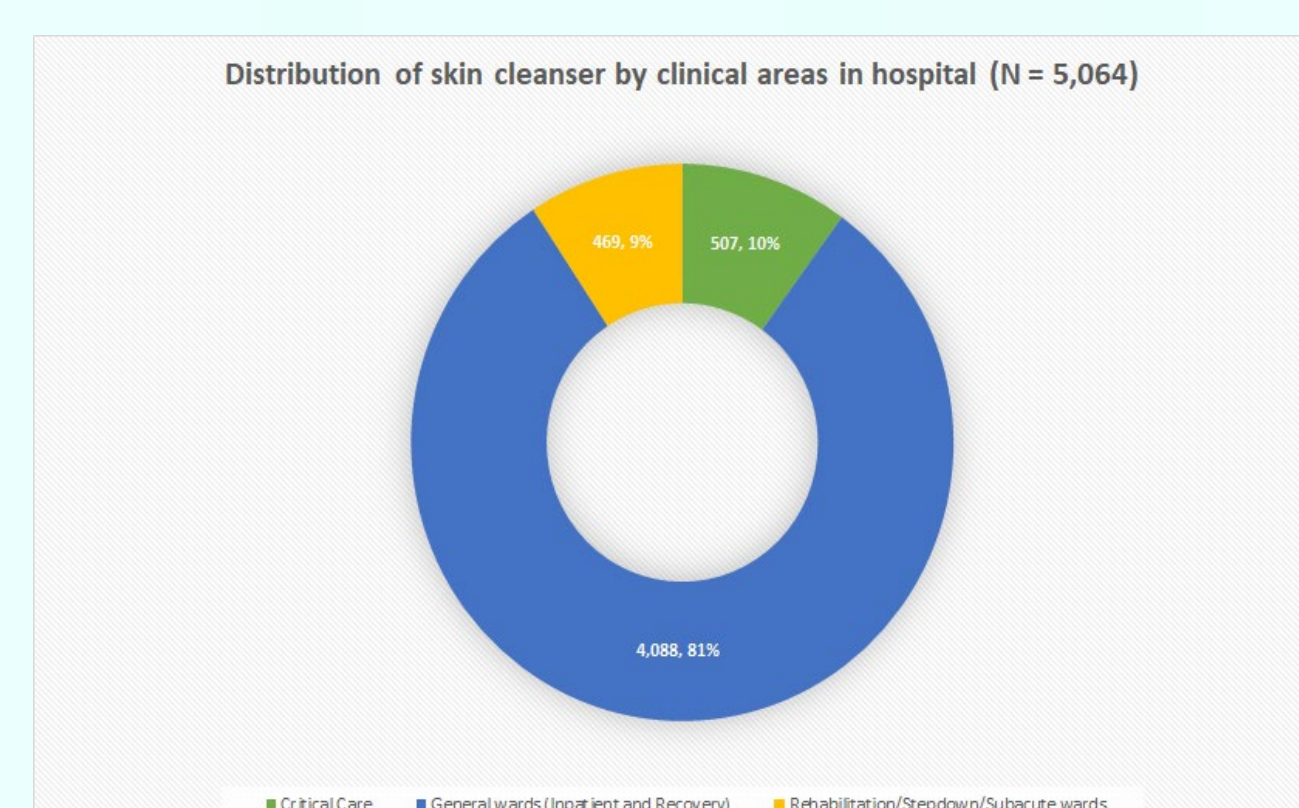


Figure 5: Breakdown of skin cleanser use throughout hospital

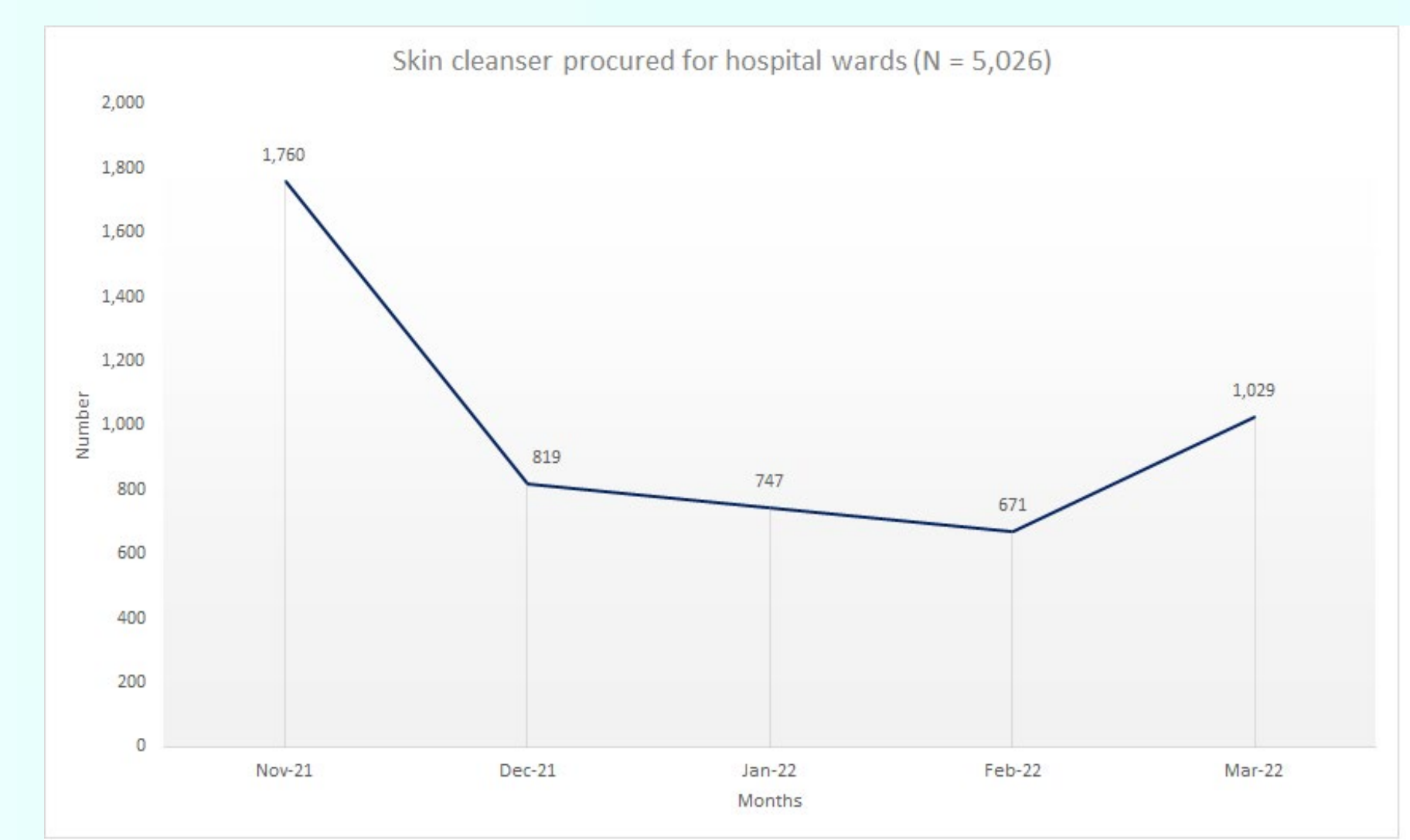


Figure 6: Amount of skin cleanser procured per month in hospital

## Cost Savings

The addition of skin cleanser was found to save approximately 140 minutes per week per patient on incontinence care.

Using 2019 inpatient data of approximately 16,831 incontinent patients a year and projecting a week's stay for each, the use of the A.C.P.R.O. bundle could save potentially up to 39,272 hours of nursing time a year. This translates to a saving of approximately 20 FTE.

## Problems Faced

The rollout of A.C.P.R.O. training in November 2021 had to be staggered as part of the surge of training required for nurses to prepare for the Next Generation Electronic Medical Record System.

This led to us using a just-in-time training method for all nurses in November 2021. In addition, all current and new nurses have access to the electronic learning module to equip them to perform IAD prevention and management.

## Strategies to sustain

The A.C.P.R.O. bundle is now standard training for all new nurses, ensuring the continuity of the delivery of this new aspect of care for all incontinent patients.

The skin cleansers and protectants needed for the A.C.P.R.O. bundle are now procured and stocked at the inpatient ward level, ensuring its accessibility on the ground.