NSW GOVERNMENT

Prevention and management of incontinence-associated dermatitis

Clinician toolkit

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- Directors of Nursing at Armidale Hospital, Bankstown Hospital, Bathurst Hospital, Concord Hospital, Royal Prince Alfred Hospital and The Sutherland Hospital

Members of the IMBED Post-Research Implementation Advisory Committee:

- NSW Ministry of Health
- NSW Ministry of Health pillars (including the Clinical Excellence Commission and Agency for Clinical Innovation)
- Continence Foundation of Australia
- University of Sydney

Members of the IMBED Clinical Expert Group:

- Membership: chief investigators, site investigators, research officers, clinical experts, consumer representatives, clinical nurse educators of each study ward
- Purpose: coordinate the implementation of IMBED across the six project sites

Members of the IMBED Project Steering Committee:

- Membership: chief investigators, site investigators, associate investigators, consumer representatives
- Purpose: coordinate the development and implementation of IMBED

Members of the IMBED Education Toolkit Working Group who developed the education modules:

- Membership: chief investigators, associate investigators, research officers, clinical experts, consumer representatives
- Purpose: develop five education modules

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Contents

1 Introduction

This document outlines the procedure, supporting information, and tools for the prevention and management of incontinence-associated dermatitis (IAD) to guide clinicians in hospital settings. It also presents the background and context to the work undertaken to develop the procedure. The purposes of this document are:

1 to describe the benefits of implementing IAD prevention and management best practice guidelines

2 to provide the resources to support implementation of the best practice guidelines. IAD can be prevented even if a patient suffers from severe incontinence.

1.1 What is incontinence-associated dermatitis (IAD)?

Incontinence-associated dermatitis (IAD) is a common and under-recognised painful skin condition, caused by erosion of the skin from prolonged exposure to urine or stool from incontinence.[1] In Australia, the prevalence of IAD among adult patients in acute care settings has been found to be 20.7% of incontinent patients[2] and as high as 42% of incontinent patients.[3]

Patients with IAD experience considerable discomfort, such as pain, burning and itching in the affected areas (buttocks, perineum and gluteal clefts).[1,4,5] IAD can result in loss of independence, depression, sleep disruption, and worsening of urinary and faecal soiling.[6,7] IAD is often mistaken for a pressure injury.[2,6,8,9] IAD is a neglected clinical area, and there are major gaps in current practice, including its identification, prevention and management. Patients with IAD have been found to:

- have longer length of hospital stay
- be more likely to be readmitted
- be two times more likely to have a hospital-acquired sacral pressure injury.[10]

Total index hospital costs have been found to be 1.2 times higher for incontinent patients and 1.3 times higher for patients with IAD treatment.[10]

1.2 Patients at risk of IAD

IAD may affect people of any age. The distribution of affected skin in IAD is variable and may extend well beyond the perineum (the area between the anus and the vulva or scrotum) depending on the extent of skin contact with urine and/or faeces. Although increased age is associated with higher prevalence of incontinence, age does not appear to be an independent risk factor for IAD.

When skin is damaged by exposure to urine/faeces, the epidermis is also more prone to injury from friction with surfaces such as clothing, incontinence pads, bed linen and chair surfaces.

Key risk factors for IAD:

- frequent episodes of incontinence (especially faecal incontinence)
- inappropriate use of incontinence aids
- poor skin condition (for example, due to ageing, steroid use or diabetes)
- compromised mobility
- diminished cognitive awareness
- delayed cleansing due to inability to perform personal hygiene
- pain
- raised body temperature (pyrexia).

1.3 Context

Patients with incontinence and IAD are at high risk of developing a pressure injury.[1,2,8,11] Clinicians struggle with diagnosing and classifying IAD because it is often mistaken for a pressure injury.[12,13] These practice gaps have led to common misdiagnosis of IAD,[1,6,8] mistreatment of incontinence and IAD,[6,11] increased reporting of pressure injury, and increased organisational costs arising from increased length of stay and extra resources.[1,8,14,15]

The best available evidence for the management of IAD is outlined in the international best practice guideline[1] and the Ghent Global IAD Categorisation Tool (GLOBIAD).[16]

References can be found in Section 8, on page 20.

The IAD best practice guideline[1] provides recommendations for IAD identification, prevention and management. Improving IAD prevention and management aligns with NSW Health's strategic priorities:

1 Leading Better Value Care (LBVC) for Chronic Wound Management

2 National Safety and Quality Health Service (NSQHS) Patient Safety First — Comprehensive Care Standard 5, which ensures risk of harm to patients is minimised.

1.4 Background to implementing IAD prevention and management best practice guidelines

The IMBED program (Appendix 1) was borne out of the introduction of the IAD best practice guidelines[1] in 2015 and previous work conducted in Sydney Local Health District, which identified that hospital-acquired pressure injuries were being misdiagnosed as IAD and vice versa.[2,8]

IMBED is an acronym for 'a novel implementation of best available evidence into practice for incontinence-associated dermatitis'.

Informed by a gap analysis at Sydney Local Health District in 2019, IMBED was a program of work that aimed to improve the prevention and management of IAD by implementing the international best practice guidelines and the GLOBIAD in a bundled approach.

Key success factors the IMBED project identified were aimed to improve the quality and management of patient care, in particular, the skin care of those with incontinence, and prevent the development of IAD. IMBED was a collaboration of six metropolitan, rural and regional hospitals across five local health districts that commenced in November 2019. The IMBED Program was funded by an NSW Health Translational Research Grant (TRG), awarded in 2019.

1.5 Key findings of the IMBED Program

The IMBED Program demonstrated:

- There was a 36.3% reduction in the prevalence of hospital-acquired IAD in incontinent patients, despite the post-implementation patient cohort having higher acuity.
- The IMBED intervention can be implemented effectively in hospital settings with adaptations and can achieve significant improvements in skin care and IAD and pressure injury rates.
- Overall, including all product costs and all costs associated with staff attendances, the cost associated with each episode of care did not change significantly from pre-intervention to post-intervention.
- Key actions can facilitate successful implementation, such as engaging all clinical staff, clinical champions and executive leadership, and developing referral pathways and knowledge and education tools.

Refer to Appendix 1 for an overview of the results.

Key success factors the IMBED project identified were:

- implementation driven by local champions
- local expertise to support local champions
- sustaining the intervention to facilitate change in practice and culture
- identification of, and improvement of, clinician knowledge of IAD
- measuring and monitoring outcomes for patients.

1.6 What is in this toolkit?

This toolkit outlines evidence-based practice for the prevention and management of IAD. The clinical practice and patient care championed and aided by this toolkit will improve value to the patient, clinician and system in the following areas related to value-based health care:

- health outcomes that matter to patients
- experiences of receiving care
- experiences of providing care
- effectiveness and efficiency of care.

This toolkit presents:

- the intervention for best practice IAD prevention and management
- key principles for successful implementation of IAD best practice
- people's experience of IAD
- procedure for prevention and management of IAD
- supporting information for IAD prevention and management.

References can be found in Section 8, on page 20.

2 Patient experiences

2.1 The experience of patients living with incontinence-associated dermatitis (IAD)

Interviews conducted with patients with incontinence and IAD in the IMBED study found that IAD had a serious impact on the quality of life and experience of people with incontinence.

All participants were initially asked if they knew what IAD was, and few defined it correctly — participants with IAD were unable to describe it accurately or provided erroneous definitions.

The experiences of having IAD can be described as debilitating and feeling desperate for relief. IAD was painful and was often aggravated by leaking pads, reduced mobility or being bed-bound.

The experience of having IAD was characterised by a painful, burning, itching sensation, leaving participants desperate for relief. Some patients were unable to resist the temptation to scratch themselves to relieve their discomfort, resulting in bleeding sores.

> "I know that if a person with incontinence is lying in a bed for too long or with pads, there can be skin irritations … lesions can arise, and this can be a very sore, uncomfortable problem with possible risk of infection."
>
> Harry, husband of 67-year-old female patient who was incontinent for one year and had IAD

> "I'm getting them [IAD]. Big time. I've been leaking a heck of a lot … through the pad … it's a burning sensation I get and it's painful sensations from sitting in the one place. I've had ulcers, they're everywhere … down my buttock from urine as well."
>
> Rowena, 82 years old, incontinent for three years, with IAD as well as pressure injuries

> "It's debilitating. That's the main thing. It [IAD] makes you feel awful. Kind of a bit low … I get a bit of a sore bum."
>
> Dorothy, 76-year-old, immobile, and incontinent for three months, with IAD

> "She even drew blood. It [IAD] was that itchy, she was getting all rashes and all that … she was very irritable. Sometimes when it gets really red and you try to touch it with cream, you can tell it hurts. She seems always to dig for sores."
>
> Maureen, whose 61-year-old daughter was in hospital with uterine cancer, incontinent for six years, with hospital-acquired IAD

> "It's bloody itchy all right … I get pain and everything along there. Geez, does it get itchy. I feel like pulling my stomach outside."
>
> Jillian, 82-year-old, in hospital for treatment for hyperkalaemia, with IAD

Watch a video of a patient, Dianne, reflecting on her experience with IAD and how it was managed. Scan the QR code or visit https://vimeo.com/444130367/f4895ecea6

2.2 Case study: Dianne

Dianne, a 71-year-old woman living in a small, remote town in New South Wales, Australia, was admitted to a regional hospital with intertriginous dermatitis and bacterial cellulitis on her abdominal pannus for 15 days (Figure 2.1). Dianne had been suffering from incontinence for over 30 years and, on admission to the hospital, it was found that she also had IAD. A multidisciplinary team (continence nurse practitioner, wound clinical nurse consultant and occupational therapist) was engaged to devise a management plan to manage her incontinence, treat the IAD, and improve skin integrity.

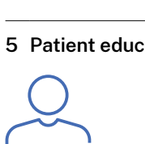
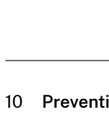
A key component of the prevention of IAD centres on the correct assessment and management of incontinence. This involves identifying causes of incontinence and addressing any reversible causes such as urinary tract infection, constipation, and incontinence caused by medications.[1] If incontinence is deemed irreversible, preventative measures such as individualised toileting plans, which in Dianne's case was in place, should be implemented to reduce or avoid episodes of incontinence.[1] Dianne's access to the toilet was further enhanced by engaging with mobility exercises under the guidance of the occupational therapist.

Other steps that contributed to maintaining Dianne's skin integrity included minimising the bed protection layers and using a super absorbent polymer (SAP) bed pad when necessary, and correct-sized continence aids to prevent urine leakage. These measures minimised the requirement for extra layers and improved the microclimate of the skin.[18] Skin surface microclimate includes temperature and moisture. Exposure to moisture can lead to moisture-associated skin damage (MASD) due to inflammation of the epidermis and dermis.[19] Further, the regular use of barrier cream cloths resulted in improved healing of Dianne's IAD compared with the zinc oxide cream and dressings that were previously applied to Dianne's skin. The IAD resolved within three days following the initiation of her management plan.

Figure 2.1 Dianne and the wound clinical nurse consultant

References can be found in Section 8, on page 20.

3 Best practice for IAD prevention and management

Intervention component	Description
1 Staff education 	Five modules delivered face-to-face, with potential delivery via My Health Learning
	1 Continence assessment and management
	2 IAD aetiology and risk
	3 IAD classification and diagnosis
	4 IAD prevention and management
	5 Case studies
2 Best practice guidelines and categorisation tool 	Best practice evidence such as the IAD best practice principles
	A categorisation tool to classify IAD in assisting with the best management plan. For example, the Ghent Global IAD Categorisation Tool (GLOBIAD).
3 Patient skin protection 	Implementation of a skincare plan to ensure the skin is not compromised (does not become too dry or too moist). Comfort Shield® Barrier Cream Cloths for skin cleansing, protecting and restoring.
	Minimising friction on the skin and ensuring the microclimate is not impaired by reducing the number of layers on the bed. The correct number of bed layers (maximum of two, including continence pad).
	Ensuring an incontinence pad of appropriate type, size, and absorbency (if deemed necessary) is used.
4 Incontinence assessment and management 	Step 1 Incontinence Assessment and Management in a Hospital Setting Flowchart (Appendix 2)
	Step 2 Three Day Incontinence Record Chart (Appendix 3)
	Step 3 Continence Aids Chart (Appendix 4)
5 Patient education	Patient education brochure on IAD (Appendix 5)

4 Procedure for IAD prevention and management

The best available evidence for the management of IAD is outlined in the international best practice guideline[1] and the Ghent Global IAD Categorisation Tool (GLOBIAD).[16] The guideline[1] provides recommendations for IAD identification, prevention and management. When bundled together, the GLOBIAD and guideline provide a strong evidence base to identify, prevent and manage IAD.

- Clinical practice guidelines provide clinicians with the best available evidence as well as a framework to assist in clinical decisions about appropriate standards of care.
- IAD prevention is directed at reducing the duration that skin is exposed to urine and/or faeces and reduces the impact of predisposing factors of IAD.
- IAD prevention strategies, particularly incontinence management, should be incorporated into the patient's care plan.
- All patients identified as having incontinence should have a plan of care that incorporates measures such as incontinence management and the cleaning, cleansing, protecting and restoring of skin.
- IAD assessment involves differentiating IAD from pressure injury as well as the correct categorisation of IAD, which will determine the appropriate management options.

Above all, IAD management should involve the development of an individualised plan with the patient and carer.

4.1 Continence assessment and management

1 Identify patients who are at risk of IAD.

2 Conduct a skin assessment (in accordance with your local health district procedure) and document in the medical records.

3 Conduct an incontinence assessment to rule out or treat reversible causes of incontinence (Appendix 2).

- a Implement individualised toileting plans according to the patient's needs (Appendix 3).
- b Select the appropriate continence aid (Appendix 4).

4 Consider early referral to an allied health or medical professional, if necessary. For example:

- a refer to the physiotherapist to improve mobility to and from the toilet to avoid functional incontinence.
- b liaise with the occupational therapist to determine the safest and most appropriate toileting techniques and equipment to use that are relevant to the patient's needs.
- c inform the medical team of test results and review relevant medications that can improve or worsen the patient's incontinence.

5 Clean the skin after each episode of incontinence as soon as possible, using a pH skin-friendly cleanser to prevent changes to normal skin pH. The recommended skincare regimen in patients with incontinence includes a four-step process of cleaning, cleansing, protecting and restoring the skin.[1]

For further information, see Appendix 6 Continence assessment and management.

References can be found in Section 8, on page 20.

4.2 Structured skincare regime

Structured skincare regime

The recommended skin care regime for patients with incontinence has four steps — clean, cleanse, protect and restore.

Comfort Shield® Barrier Cream Cloths by SAGE (3-in-1 product that cleanses, protects and restores the skin) are used for the prevention and treatment of IAD and moisture-associated skin damage (MASD). MASD is damage to the skin caused by prolonged exposure to a source of moisture, such as urine, faeces, sweat, wound drainage, saliva, or mucus.

- Prepare equipment required prior to commencing.
- Perform hand hygiene; don appropriate personal protective equipment (PPE), for example, plastic apron and gloves as a minimum.

Urinary incontinence

1 Use 3-in-1 Comfort Shield® Barrier Cream Cloths.
2 Apply to areas where incontinence is in contact with the skin or where there is moisture, such as skin folds.
3 Remove PPE and perform hand hygiene.
4 Ensure the patient is left comfortable.
5 Continue to use 3-in-1 Comfort Shield Shield® Barrier Cream Cloths as long as incontinence continues.

Faecal incontinence

1 Put on gloves and clean excess faeces with warm water and a washcloth (disposable soft cloth).
2 Remove gloves, perform hand hygiene (alcohol-based hand rub can be used) and don a new, clean pair of gloves.
3 Use 3-in-1 Comfort Shield® Barrier Cream Cloths.
4 Apply to areas where incontinence is in contact with the skin or where there is moisture, such as skin folds.
5 Remove PPE and perform hand hygiene.
6 Ensure the patient is left comfortable.
7 Continue to use Comfort Shield® Barrier Cream Cloths: Cleanse, Protect and Restore as long as incontinence continues.

The bulk of faeces and urine are to be removed/cleaned prior to using the Comfort Shield® Barrier Cream Cloths.

- Avoid standard (alkaline) soaps and antiseptics.
- Use a gentle technique with minimal friction, and avoid rubbing/scrubbing the skin.
- Gently pat dry skin if needed after cleaning.

If a 3-in-1 barrier product is not available, the following cleansing, protecting and restoring procedures are to be adhered to:

Cleanse: Choose a gentle, no-rinse cleanser or pre-moistened wipe with a low-alkaline value or pH similar to normal skin. Examples include Cutan 3-in-1 Skin Cleanser (body wash, shampoo, conditioner) and Sorbolene wash.

Protect and restore: Use an occlusive moisturiser such as Dimethicone™ and petrolatum and protective skin barriers. Barrier films, for example, 3M™ Cavilon™ No Sting barrier film spray or cream, may also be used.

- If incontinence pads are used, a thin layer of barrier cream should be applied so that the skin can still be inspected. If excess cream is used, then the pores of the pads will be blocked and the pad will not be able to absorb urine or faeces.
- Do not use any products that contain alcohol on excoriated skin as this will cause extreme pain.
- Conduct a pain assessment related to IAD skin care and cleaning.
- Provide patients and caregivers a patient education brochure on the importance of skin care when incontinent (Appendix 5).
- Use urinary catheters and/or faecal management systems (FMS) when clinically indicated.[20] They are a last resort for continence management.
- Document skin assessment and regime in medical records.

For further information, see Appendix 7 Clean, Cleanse, Protect, Restore.

4.3 IAD classification and diagnosis

Correct assessment and diagnosis of IAD is necessary to ensure that the patient receives appropriate treatment for this condition. If a patient is not incontinent, they do not have IAD. Assessment for IAD should be incorporated into a general skin assessment and performed as part of pressure injury prevention (see NSW Pressure Injury Prevention and Management Policy (PD2021_03) and your local health district pressure injury prevention and management policy).

Diagnosing IAD: skin assessment

Regular skin assessments should be conducted on all patients with incontinence to check for signs of IAD. Assessments should occur at least once daily and after each episode of incontinence. Areas where moisture or soiling is often trapped, such as skin folds, should be inspected carefully. Areas most likely to be affected by IAD are shown in Figure 4.1.

Undertake a comprehensive skin assessment of areas that may be affected, noting:

- erythema
- maceration
- presence of lesions
- erosion or denudation
- signs of infection (satellite lesions).

Document the findings of the skin assessment and any appropriate actions required in the incident management system (according to *NSW Health Incident Management* PD2020_047) and the patient medical record.

Classifying IAD

The GLOBIAD[16] should be used when diagnosing and classifying IAD (Table 4.1).

The GLOBIAD is:

- simple to use
- helpful to decide management strategies.

There is no linked progression in the categories of IAD (Category 1A does not progress to Category 1B; nor does 2A progress to 2B).

Figure 4.2 IAD on a darker skin tone[1]

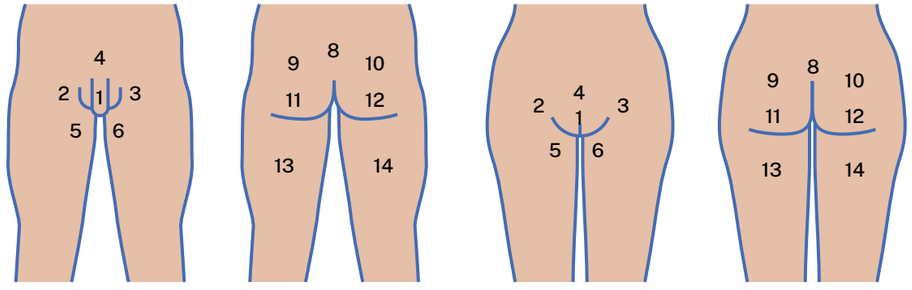
Further, IAD may have a distinguishable appearance on darker skin tones (Figure 4.2). For example, in patients with darker skin tones, skin may be paler, darker, purple, dark red or yellow.

To distinguish IAD from a pressure injury, see Appendix 8.

4.4 IAD management

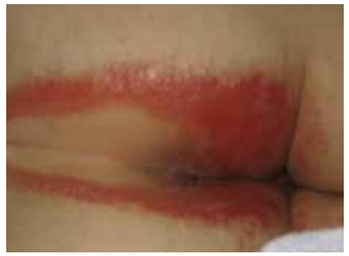
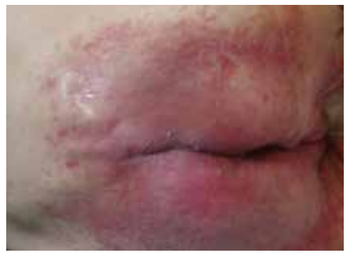
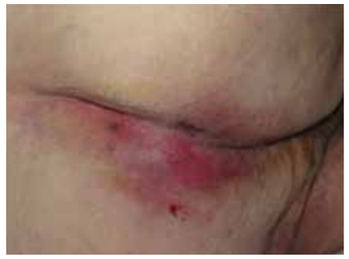
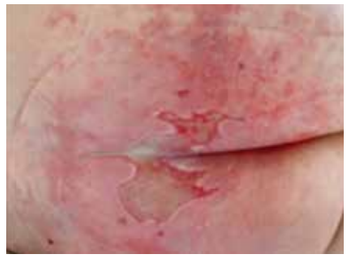
- IAD management should involve development of an individualised plan with the patient and carer.
- If a patient develops IAD, follow the regime outlined in Section 4.2 (Structured skincare regime), however, after every incontinence episode, use the Comfort Shield® Barrier Cream Cloth.

Figure 4.1 Areas most likely to be affected by IAD[1]



1 Genitalia (labia/scrotum)
2 Right groin fold (crease) between genitalia and thigh
3 Left groin fold (crease) between genitalia and thigh
4 Lower abdomem/suprapubic
5 Right inner thigh
6 Left inner thigh
7 Perineal skin
8 Gluteal fold (crease between buttocks)
9 Left upper buttock
10 Right upper buttock
11 Left lower buttock
12 Right lower buttock
13 Left posterior thigh
14 Right posterior thigh

Table 4.1 The four categories of IAD in the GLOBIAD[16]

Category 1 – Persistent redness	
Category IA	
Persistent redness without clinical signs of infection A variety of tones of redness may be present For patients with darker skin tones, the skin may be paler or darker than normal or purple in colour	
Category IB	
Persistent redness with clinical signs of infection A variety of tones of redness may be present For patients with darker skin tones, the skin may be paler or darker than normal or purple in colour. Signs of infection: • fungal infection – white scaling of the skin • Candida albicans fungal infection – pustules surrounding satellite lesion	
Category 2 – Skin loss	
Category 2A	
Skin loss without clinical signs of infection Skin loss may present as skin erosion (may result from damaged/eroded vesicles or bullae), denudation or excoriation. The skin damage pattern may be diffuse.	
Category 2B	
Skin loss with clinical signs of infection Fungal infection – white scaling of the skin. Candida albicans fungal infection – pustules surrounding satellite lesion. Signs of infection: • slough visible in the wound bed (yellow/brown/greyish) • green appearance in the wound bed (suggesting a bacterial infection with Pseudomonas aeruginosa) • excessive exudate levels, pus • a shiny appearance of the wound bed.	

References can be found in Section 8, on page 20.

5 Implementation and evaluation

This section expands on the factors that play a role in successful implementation and evaluation of IAD best practice.

5.1 What makes implementation a success and sustainable?

Frequently asked questions (FAQs)

Prior to implementation of a new model of care or change in practice, health service managers, nurse managers, executives, and clinical leads should consider the following questions and answers.

Success

Success is dependent on several factors. The following questions and answers may assist you to drive successful implementation of this new model of care.

1 Why is it important to implement this model of care in our service?

Incontinence is prevalent in a significant proportion of our older patients. Incontinence-associated dermatitis (IAD) is a common, painful, neglected skin condition that may predispose the patient to the development of pressure injuries and impacts on their quality of life.

If IAD is not prevented or managed properly, it can be costly to the patient and health system. This new model of care will help you and your service improve outcomes and experiences of care for patients with IAD and incontinence and enhance the provision of care for your staff.

2 How do I get started?

Successful implementation relies on a:

- good evidence base,
- receptive organisation/facility ready for change, and
- facilitators/champions that will help drive efforts at implementation and beyond.

The first step is to identify who the clinical champion/clinical lead/executive lead of wound care or skin integrity is in your service. It would be helpful to discuss the goals and directions and ascertain if there are any resources or sponsorship required from your facility to implement this new model of care.

3 How important is evidence to consider a case for change?

Facility clinical leads/managers/directors depend on data-driven evidence to monitor patient outcomes and drive improvements in clinical practice.

In the case of IAD, data such as occurrence rates, patient length of stay, and audit findings are crucial for evaluating clinical practices and patient experiences. Published evidence-based guidelines serve as a foundation for implementing and evaluating this new care model, strengthening our case for change.

Box 1: Sources of IAD data

- Hospital acquired IAD - Incident Management System (IMS)
- Prevalence of IAD-Quality Audit Reporting System (QARS)
- Patient experience of IAD – Patient Reported Experience Measures (PREMS) and interviews
- Pressure Injury Point Prevalence Audit (PIPPA) which includes IAD
- Anecdotal reports/feedback from patients and staff
- Case studies of patients with IAD

4 How do I know if my facility/service is ready for this new model of care?

IAD plays a crucial role in national standards for comprehensive care and pressure injury prevention. It aligns with the National Aged Care Mandatory Quality Indicator Program, focusing on incontinence care. If these priorities resonate with your organisation, implementing this new care model can bring significant benefits.

Another important factor to consider is the readiness of all levels within your organisation (unit, executive, and staff) for adopting this new model of care.

5 How do I develop an implementation plan?

A good implementation plan carefully considers key stakeholders (for example, staff, patients, executives), any barriers, any enablers, the unit/ward readiness for change, and the staff who will assist in implementation.

Box 2: Resources available to facilitate development of an implementation plan

We used the Promoting Action on Research Implementation in Health Services (PARIHS) framework which focusses on context, evidence, and facilitation to help guide our implementation plan. See: https://implementationscience.biomedcentral.com/articles/10.1186/1748-5908-6-99

The Accelerated Implementation Methodology is another example of a methodology that is standardly used across NSW Health. See: https://aci.health.nsw.gov.au/support-for-innovation/redesign-change-management/aim

6 What do I need to do to facilitate this new way of caring for patients with incontinence/IAD?

Identify local champions/clinicians invested in this new care model. Assess existing governance structures for skin integrity. Request inclusion of IAD as a standing agenda item in relevant committees for accountability and visibility.

Utilise the rationale from Question 1 to strengthen your case.

Sustainability

1 How can I activate existing systems and processes in my service to sustain this model of care when we have made the change?

To sustain the new care model in your service, integrate the changes into your workflows. Update documentation templates, protocols, and guidelines to incorporate the new practices. Provide staff training and education, and regularly monitor and gather feedback. Engage all stakeholders, including staff and leadership, to ensure ongoing support.

Use existing auditing platforms like the Quality Audit Reporting System (QARS) to monitor and improve IAD prevention and management practices. Regular evaluation and quality improvement initiatives will help identify areas for enhancement and maintain the model of care.

2 How do I use routine data to evaluate the effectiveness of this model of care?

Data on IAD can be derived from several sources. Begin by establishing specific evaluation goals and determining which outcome measures are most relevant to assess the impact of your care.

These measures could include patient outcomes, such as improvements in health or quality of life, process measures that track adherence to care protocols, or system-level indicators that monitor overall health care system performance. By identifying the appropriate evaluation objectives and outcome measures, you can effectively measure and analyse the impact of the model of care on patient outcomes and overall care delivery.

For a list of sources of IAD data, see Box 1 on page 15 of this document.

5.2 Success factors for best practice implementation and evaluation

Local clinical champions

Local champions are essential to leading the practice transformation (including modelling behavioural change) and ensuring successful uptake and sustainability of the change to practice into the future. It is important that each ward, with the endorsement of its leadership, identify key champions who can facilitate education on IAD prevention and management and uptake of, and adherence to, the intervention. Without the support of these key individuals, future sustainability will be difficult to achieve.

The introduction of changes to clinical practice will require staff to participate in training delivered by the local champions. Such training includes completing the five education modules and will be delivered by the local champions. This is to be supplemented by less structured education such as role modelling and face-to-face huddles. Each facility's skin integrity lead (for example, wound clinical nurse consultant) will train the local champions on how to deliver the education modules to their staff.

Local champions are best placed to work with staff and facilitate the improvement of knowledge to enhance practice change. It is important to allow some dedicated time for staff to undertake these education modules as part of the introduction of these practice changes.

Support for local clinical champions

Skin integrity leads at each facility will assist the local champions in each ward to develop a plan and timeline to implement the intervention. The skin integrity lead will also train the local champions in each ward to monitor adherence, address difficulties encountered, and provide advice on practice change. The skin integrity lead will continue to support the local champions to sustain the intervention in accordance with the sustainability plan, with the endorsement of the ward's leadership.

Evaluating and sustaining the intervention to facilitate change in practice and culture

Auditing intervention adherence

Regular intervention adherence auditing by the local champions, under the guidance of each facility's skin integrity lead, will be required once the intervention is implemented. An adherence tool has been developed to measure adherence to each component of the intervention (Appendix 10). This adherence tool should be implemented in your facility's Quality Audit Reporting System (QARS) application to ensure there is accountability and enable systematic monitoring. The QARS application has three modules including Audit, Survey and ReACT. QARS Audit and Survey are available for use by facilities to collect data that will help to drive the implementation of safety and quality systems and improve the quality of the health care they provide. This may include measuring existing and emerging health care issues, including governance and assurance and patient safety. An audit or survey can also be used by a facility to meet accreditation requirements as determined by the National Safety and Quality Health Service Standards of the Australian Commission on Safety and Quality in Health Care. Gradually, as adherence improves and is sustained, the frequency of adherence auditing can decrease.

Sustainability plans

Sustainability plans that include monitoring adherence to the intervention, ongoing provision of education, regular updates with the skin integrity lead, succession planning, and sustaining team capability to drive the intervention will be developed by the skin integrity leads and local champions to ensure long-term sustainability of the intervention. Endorsement of the sustainability plan by the ward's leadership is a key driver for its successful implementation.

Monitoring incontinence and IAD via audits

A comprehensive audit tool of incontinence and IAD has been developed to assist local champions to monitor incontinence management and IAD prevention (Appendix 9).

Clinician knowledge

To assist local champions and skin integrity leads to determine areas of knowledge gaps that require further targeted education, the Barakat-Johnson Incontinence-Associated Dermatitis Knowledge Tool (Know-IAD)[17] (Appendix 11) can be administered to staff to determine their knowledge of IAD. The Know-IAD is an 18-item validated instrument that measures knowledge of IAD in the domains of (1) aetiology and risk, (2) classification and diagnosis, and (3) prevention and management.

6 Glossary

Bed pad
Flat, disposable, absorbent pads..

Candida albicans fungal infection
The most prevalent cause of fungal infections in people.

Clean intermittent self-catheterisation (CISC)
The periodic insertion of a catheter (a long plastic tube) into the bladder to drain residual urine.

Continence aids
A range of continence aids in the prevention and management of bladder and bowel incontinence, for example, raised toilets, wall-mounted grab bars, disposable pads, indwelling and disposable catheters.

Continence Aids Chart
A chart that assists clinicians to select the correct continence aid which is individualised to the specific needs of the incontinent patient.

Continence pads
A disposable pad for urinary incontinence containing special absorbent material that holds varying amounts of urine. Some pads are specifically designed for faecal incontinence and have built-in odour control. Examples of continence pads include all-in-one pads, pull up pads, and bed pads.

Denudation
The loss of epidermis, caused by prolonged moisture and friction.

Erosion
Partial loss of the epithelium, with the basement membrane left intact.

Erythema
Redness of the skin, either in a limited area or all over.

Faecal management system (FMS)
A fully closed system that collects and contains liquid or semi-liquid stools and can assist in the prevention of faecal contamination of the environment and the skin.

GLOBIAD
Ghent Global IAD Categorisation Tool.

Incontinence
Involuntary loss of urine or faeces anywhere other than the toilet.

Incontinence-associated dermatitis (IAD)
A type of irritant contact dermatitis (inflammation of the skin) found in patients with faecal and/or urinary incontinence.

Lesion
Areas of the skin that have an abnormal growth or appearance compared to the skin around it.

Maceration
Softening and breakdown of skin resulting from prolonged exposure to moisture.

Moisture-associated skin damage (MASD)
Damage to the skin caused by prolonged exposure to a source of moisture such as urine, faeces, sweat, wound drainage, saliva or mucus.

Personal protective equipment (PPE)
Equipment or protective clothing that protects the wearer from hazards.

Pressure injury
A localised injury to the skin and/or underlying tissue usually over a bony prominence, as a result of pressure, shear and/or friction, or a combination of these factors.

Pseudomonas aeruginosa
A type of bacterium that can cause infections in humans.

Satellite lesions
Smaller lesions near the edges of a principal lesion.

Stratum corneum
The outer layer of the skin (epidermis). It serves as the primary barrier between the body and the environment.

Super absorbent polymer (SAP)
A material that becomes a gel when mixed with fluid, and can absorb and retain extremely large amounts of a liquid relative to its own mass (approximately 50 times, thereby wicking urine away from the skin).

Three Day Incontinence Record Chart
A chart that records all episodes of incontinence over three consecutive days in order to assist with the development of a toileting plan.

7 Additional resources

Webpage: Clinical Excellence Commission – Pressure injury prevention
cec.health.nsw.gov.au/keep-patients-safe/older-persons-patient-safety-program/pressure-injury

Online document: NSW Health Pressure Injury Prevention and Management Policy (PD2021_023)
https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/PD2021_023.pdf

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9 Appendices

Appendix 1 Overview of the IMBED Program

IMBED employed a multimethod design to evaluate patient, clinical and service outcomes before and after the implementation of the best practice guidelines across six hospitals in five local health districts in New South Wales, Australia, over a 24-month period. IMBED was guided by a translational research framework, engaging key stakeholders to standardise the strategy in a range of in-patient settings. IMBED showed that implementation of evidence-based IAD prevention practices reduced the prevalence of hospital-acquired IAD, improved incontinence management practices and clinician knowledge on IAD, improved patients' health, well-being and satisfaction.

Site selection and implementation

IMBED was a collaboration of six metropolitan, rural and regional hospitals across five local health districts that commenced in November 2019. The IMBED Program was funded by a NSW Health Translational Research Grant, awarded in 2019.

Sites and ward types

Site	Ward	Ward types
Armidale Hospital	Intensive Care Unit	Intensive Care
	Medical	Medical
	Surgical	Surgical
Bankstown Hospital	2A	General Rehabilitation
	2B	Stroke Rehabilitation
	2C	Acute Geriatrics
Bathurst Hospital	Medical	Medical
	Rehabilitation	General Rehabilitation
	Surgical	Surgical
Concord Repatriation General Hospital	Palliative Care Unit	Palliative Care
	Ward 14	Geriatric Rehabilitation
	Ward 15	Acute Geriatrics
Royal Prince Alfred Hospital	6E3	Medical
	8W1	Acute Geriatrics
	9W2	Gastroenterology Mixed
Sutherland Hospital	Barkala	Acute Geriatrics
	Killara Acute	Acute Geriatrics
	Warada	Respiratory and Gastroenterology

Evaluation of the IMBED Program

This section presents an evaluation of the clinical and cost impact of the intervention at all six study sites by comparing results prior to the implementation of best practice IAD prevention and management (pre-implementation) with results after the implementation (post-implementation). Specifically, this section will compare (1) IAD and incontinence prevalence, (2) clinician knowledge, and (3) the cost-effectiveness of incontinence management (including product utilisation, staff time).

Three activities were conducted before and after the implementation of the IMBED intervention to explore and demonstrate the effectiveness of the intervention in relation to the prevention and management of IAD:

i The research officer conducted the IAD and incontinence prevalence audits utilising a comprehensive audit tool (Appendix 10).

ii Clinician knowledge surveys were administered by the research officer to nursing, medical, and relevant allied health staff. The 18-item survey administered was the Barakat-Johnson Incontinence-Associated Dermatitis Knowledge Tool (Know-IAD) (Appendix 11) to determine staff knowledge of IAD in the domains (1) aetiology and risk, (2) classification and diagnosis, and (3) prevention and management.

iii Nursing staff completed a tool to record the resources used to manage each incontinence episode. Research officers also recorded relevant medications administered and pathology tests ordered to manage incontinence/IAD.

Other research activities conducted in the pre-and post-implementation phases included patient quality-of-life surveys, patient interviews, and clinician focus groups.

Aims

The purposes of the post-intervention IAD and incontinence audits were to:

- identify the prevalence of incontinence, IAD and other skin injuries across the six sites and compare these results with the pre-intervention results
- identify the outcome for patients with incontinence and/or IAD.

The purposes of the post-intervention clinician knowledge surveys were to:

- measure current clinician knowledge of IAD across the six sites and compare these results with the pre-intervention results
- identify the knowledge gaps concerning IAD to inform the translation of evidence-based IAD guidelines into clinical practice across the six sites.

The purposes of collecting data on the resources utilised for incontinence management were to:

- measure the cost-effectiveness of continence management as a result of the intervention across the six sites and compare these results with the pre-intervention results
- identify the impact of the intervention in terms of product utilisation and staff time.

Methodology

Wards and Program team

All three activities were conducted by the research officer based at each site. Each research officer was an experienced registered nurse and/or researcher. All surveys and audits were conducted with the cooperation of the ward staff, the clinical nurse educator (CNE) and the nurse unit manager (NUM). The CNE provided onsite support and assistance to the research officer to ensure IMBED study activities were successfully carried out.

Ethical approval

Ethics approval was obtained from the Sydney Local Health District (Royal Prince Alfred Hospital) Human Research Ethics Committee (2019/ETH08742). Research governance approval to administer the survey and audits, and collect resource use data, was obtained from each site's Research and Ethics Office.

Data collection

IAD and incontinence prevalence

Two data collection tools were completed by the research officer as part of the audit:

1 The first tool, an IAD and incontinence audit tool (Appendix 10), focused on assessment of the patient's incontinence status, mobility, IAD, presence of incontinence pads; use of underpads and bed protectors; and use of products for incontinence care. The tool was used in a previous audit conducted in Sydney Local Health District.[2,8]

2 The second data collection tool, Baseline Data Collection Form, recorded basic patient demographic data, such as the patient's primary and secondary diagnosis, type of admission, skin tone, and outcome, including length of stay.

One study ward was randomly selected each week to be audited.

Clinician knowledge survey (Know-IAD)

The Know-IAD is a validated 18-item survey (Appendix 11) that examines three different knowledge domains of IAD: aetiology and risk, classification and diagnosis, and prevention and management. The response options are in a forced choice format (true/false/don't know). The surveys were administered by the research officer to clinicians (nurses and student nurses, relevant allied health professionals and allied health students, and doctors) in each study ward.

Resource usage for incontinence management

One data collection tool was completed by nursing staff to record the products used to manage each episode of incontinence for all incontinent patients in the ward during the data collection period (including skin cleansers, treatment/prevention products, pads, underpads), staff required, and time spent managing each incontinence episode. Research officers recorded medications administered and pathology tests ordered that were relevant to incontinence or IAD management.

Procedure

IAD and incontinence prevalence

In the pre-implementation phase, the audit was undertaken in February and March of 2020 (nine-week period), and in the post-implementation phase, the audit was undertaken in July and August of 2021 (nine-week period). The program manager provided the research officer notice one week in advance of the random ward to be audited. The research officer would then notify the NUM and CNE of the chosen ward that they would be audited that week and arrange a day and time to conduct the audit.

To ensure standardisation of IAD grading, the Ghent Global IAD Categorisation Tool (GLOBIAD)[16] was provided to each research officer. Further, the site investigator, the skin integrity lead of the facility or local health district, assisted the research officer with the first audit by providing instructions and guidance.

Each patient was approached individually by the research officer, and informed of the purpose and processes of the audit, and verbal consent was obtained. A head-to-toe skin inspection was conducted, and patients were assessed for incontinence. If they were deemed incontinent, the presence of incontinence pads, use of underpads and bed protectors, and use of products for incontinence care were documented. Patient demographics (age, gender, diagnosis, comorbidities) and outcomes (length of stay, reason for discharge) were also collected by the research officer from the electronic medical record.

All patient data were de-identified when recorded and entered into a secure web-based platform used to store data (REDCap).

References can be found in Section 8, on page 20.

Clinician knowledge survey

In the pre-implementation phase, the surveys were administered from November 2019 to January 2020 (three months), and in the post-implementation phase, the surveys were administered in May and June of 2021 (two months). Clinicians (nurses and student nurses, relevant allied health professionals and allied health students, and doctors) working on the study wards were invited to complete the survey. Additional demographic data was collected, including participants' health profession, years of experience and clinical ward area. While completing the survey, participants were supervised by the research officer to ensure no collusion. The surveys were completed in a quiet room on the ward/unit. All survey responses were filled out anonymously. The approximate time to complete the survey was 15–20 minutes. Consent was implied if the clinician returned their completed survey.

All participant data were de-identified when recorded and entered into a secure web-based platform used to store data (REDCap).

Resource usage for incontinence management

In the pre-implementation phase, resource usage for incontinence management was recorded in February and March of 2020 (nine-week period), and in the post-implementation phase, resource usage was recorded in May and June of 2021 (nine-week period). For each incontinent patient, nurses recorded the resources used to manage each episode of incontinence, including products (cleansers, treatment/prevention products, pads, underpads), time taken by the nurses to provide incontinence management, and the number of staff required. The research officer obtained information on the medications administered and pathology tests ordered to manage incontinence. Further, patient demographics (age, gender, diagnosis, comorbidities) and outcomes (length of stay, reason for discharge) were collected by the research officer from the electronic medical record.

Data analysis

IAD and incontinence prevalence audits

Audit data were collated and entered into Statistical Package for the Social Sciences (SPSS), Version 22. Free text documented by the research officers was categorised, and data were grouped for analysis. The sample was summarised descriptively.

Clinician knowledge survey

Descriptive and exploratory analyses were conducted on the data in SPSS. A mean knowledge score of 70% was considered satisfactory. All 'don't know' responses were coded as an incorrect response. Participating clinicians were grouped according to profession: doctors (including junior and senior medical practitioners), nurses (including registered and senior registered nurses, and enrolled nurses), allied health practitioners, and students (including undergraduate nursing and allied health students).

Resource usage for incontinence management

Data was cleaned in Microsoft Excel, and analysis was conducted in statistical software (STATA). Descriptive analysis was used to summarise the main features of the study sample; the resources used during incontinence/IAD episodes, collected through the resource use collection tool, including medications and pathology; and patient demographics and outcomes data. Analysis was undertaken on all episodes of incontinence care. Various statistical tests were used to determine the statistical significance of measures across the three groups (such as t-tests for continuous data and chi-square tests for categorical data). Graphical analysis was also used to show the main economic features (such as product, staff and total costs) of incontinence care by pertinent characteristics of patients (demographics) and hospitals (wards).

Key results

IAD and incontinence prevalence audits

- Proportions of hospital-acquired IAD in both cohorts were low: 6.71% pre-implementation (23 out of 343 patients with incontinence) and 4.27% post-implementation (15 out of 351 patients with incontinence).
- Comparing the post- and pre-implementation cohorts, the improvement in proportion of hospital-acquired IAD cases of 36.3% represents an effect of substantive importance. This was achieved despite patients in the post-implementation cohort having higher acuity.
- Incontinence status was found to be strongly associated with the outcome (p = 0.064). The odds of IAD in doubly incontinent patients were about double the odds of IAD in singly incontinent patients (in both phases).
- Length of hospital stay was found to be significantly higher in the post-implementation cohort, despite lower numbers of cases of IAD recorded in this cohort.
- No evidence was found that the distribution of IAD severity classifications was affected by the implementation of the intervention.
- The data are high quality and have been subject to extensive checking of pre-admission records at each individual hospital to ensure that no IAD case in either cohort was erroneously assigned to be acquired in the study ward. Engagement of clinical staff in most included institutions was good. The amount of missing data was low, and zero or negligible on all outcome variables or variables of key prognostic interest.

Clinician knowledge survey

- In the pre-implementation phase, 428 clinicians completed the IAD knowledge tool (Know-IAD), and 357 completed the tool in the post-implementation phase.
- Mean overall total score: 16.5% improvement (Figure 1).
- Mean aetiology and risk domain (7 items) score: 7.5% improvement.
- Mean classification and diagnosis domain (5 items) score: 26.4% improvement.
- Mean prevention and management domain (6 items) score: 24.6% improvement.
- A mean knowledge score of 70% was considered satisfactory. Figure 2 presents the proportion of participants who achieved a satisfactory score for the overall survey and each domain.
- The mean correct response rate for staff who completed all modules was significantly higher than that of staff who partially completed or did not complete any modules across the overall survey (p < 0.001), in the aetiology and risk domain (p = 0.004), in the classification and diagnosis domain (p < 0.001), and in the prevention and management domain (p < 0.001) (Figure 3).

Resource usage for incontinence management

- In the pre-implementation sample, there were 441 patients with 5,821 reported episodes of incontinence care, and in the post-implementation sample, there were 358 patients with 3,824 reported episodes of incontinence care (see Table 1).
- Patients were similar in the pre-implementation period compared with the post-implementation period in terms of age, gender and number of comorbidities. There were statistically significant differences between the pre-implementation and post-implementation periods in the ward they were admitted, their outcome post-hospitalisation, type of incontinence experienced, and their length of stay in hospital.

Clinician knowledge survey (Know IAD) results

Figure 1 Mean score: overall survey and each domain in the clinician knowledge survey (Know IAD)

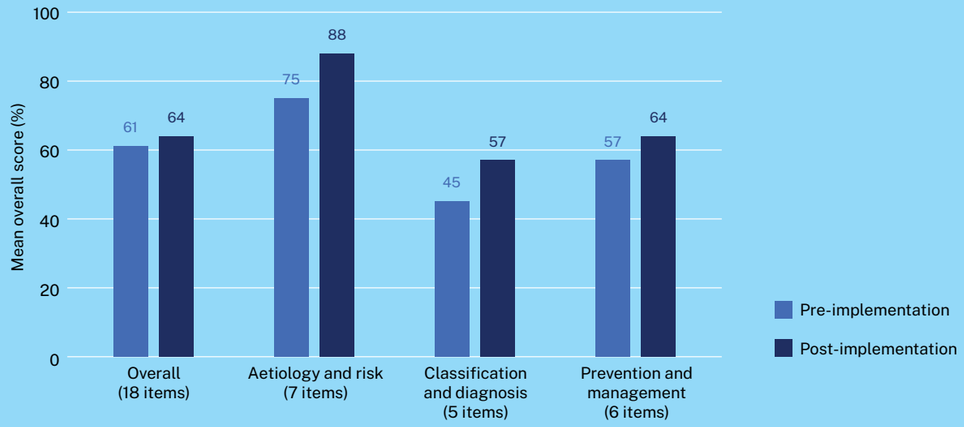


Figure 2 Pre- versus post-implementation ≥ 70% correct response rate

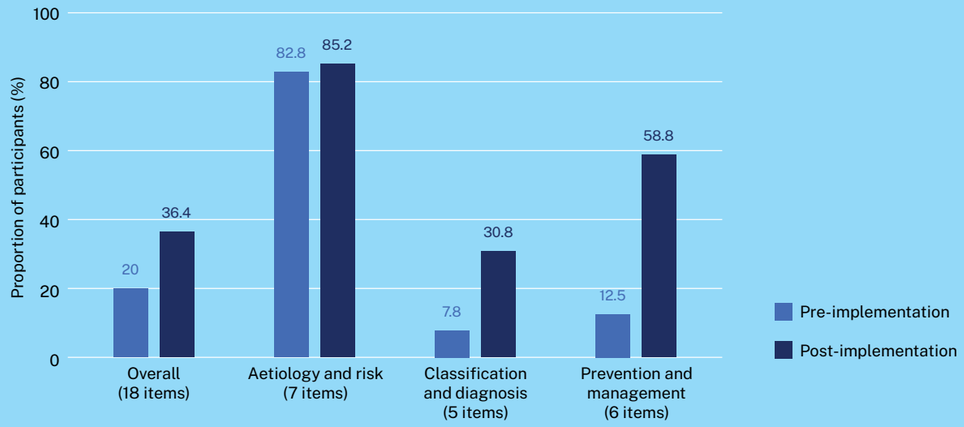
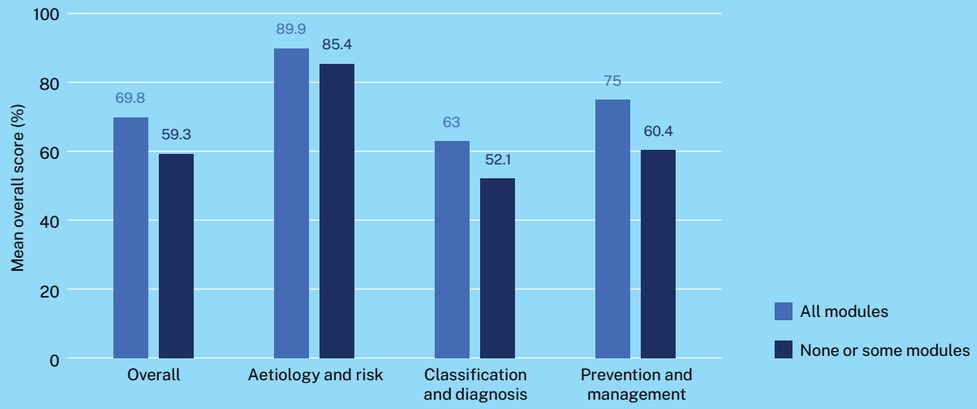


Figure 3 Mean score: all modules versus none/some modules



- There was a statistically significant increase of $0.44 per episode of care from pre-implementation to post-implementation for costs relating to staff attendances at each individual episode of care.
  - This increase in cost was driven by both an increase in the number of staff attending each episode of care (1.6 in the pre-implementation sample compared with 1.7 in the post-implementation sample) and an increase in the time spent attending to each episode of care (9.1 minutes in the pre-implementation sample compared with 9.3 minutes in the post-implementation sample).
- There was a statistically significant decrease in the proportion of episodes of care reporting the use of creams not in line with best practice such as Sorbolene, Sudocrem, and other zinc creams (11% pre-implementation to 0.3% post-implementation) and underpads/bed pads (28.5% pre-implementation to 12.9% post-implementation).
- The reduced use of these products resulted in a statistically significant decrease in costs associated with the use of underpads/bed pads (decrease of $0.10 from pre-implementation to post-implementation) and creams not in line with best practice (decrease of $0.28 from pre-implementation to post implementation).
- There was a statistically significant increase in the proportion of patients using Comfort Shield® Barrier Cream Cloths (48.3% pre-implementation to 82.3% post-implementation).
- Overall, including all product costs and all costs associated with staff attendances, the cost associated with each episode of care did not change significantly from pre-implementation to post-implementation.

Summary of findings

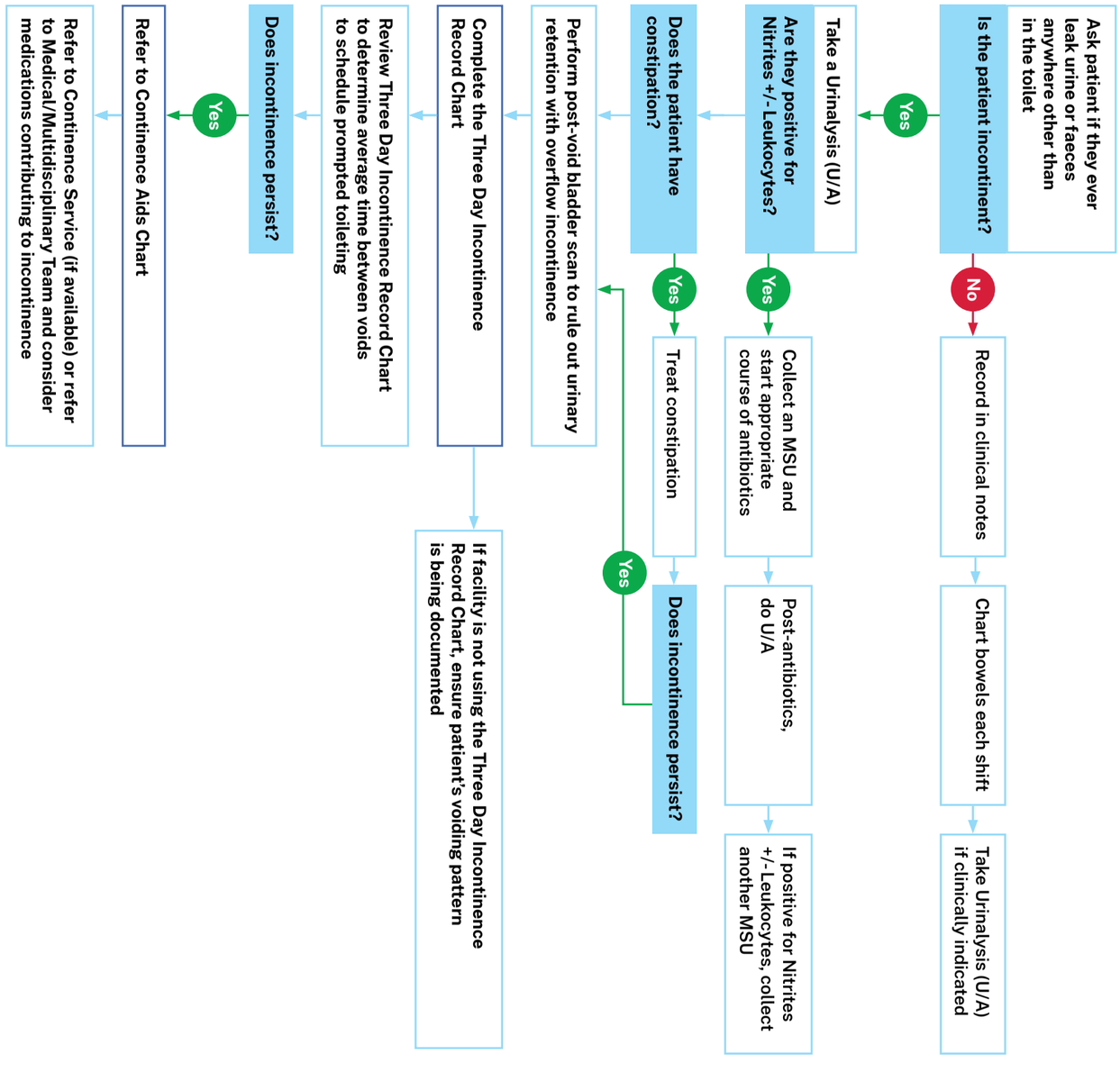
- The reduction in hospital-acquired IAD incidence of 36.3% in the post-implementation phase compared with the pre-implementation phase was achieved despite data from the post-implementation cohort being collected during the COVID-19 pandemic. COVID-19 pressures on nursing staff might have negatively affected patient treatment during this period. In addition, the patients had higher acuity in the post-implementation cohort. These findings further strengthen the practical implications of the intervention.
- There were notable improvements in the post-implementation clinician knowledge survey scores on IAD across all three knowledge domain areas (aetiology and risk [7.5% improvement], classification and diagnosis [26.4% improvement], and prevention and management [24.6% improvement]) and the overall survey (16.5% improvement) compared with the pre-implementation clinician knowledge survey scores. Scores were significantly better in those who completed all five education modules than in those who either did not complete any or completed some but failed to complete all.
- Including all product costs and all costs associated with staff attendances, the cost associated with each episode of care did not change significantly from pre-implementation to post-implementation. Overall, the intervention did not result in any significant increase in total costs (products and staff time).

Table 1 Total costs per episode of care

		Pre-implementation ($) N = 5,821	Post-implementation ($) N = 3,824	Difference $ (*p*-value)
Skin cleansers[1]	Mean	0.85	0.91	0.06 (0.25)
	Median	0.20	0.15	
	Range	0.00–17.25	0.00–28.82	
Treatment/prevention products[1]	Mean	0.77	0.82	0.04 (0.12)
	Median	0.52	0.60	
	Range	0.00–10.99	0.00–9.87	
Pads	Mean	0.59	0.59	−0.002 (0.68)
	Median	0.64	0.64	
	Range	0.00–2.56	0.00–2.91	
Underpad/bed pads[1]	Mean	0.15	0.04	**−0.10 (<0.001)**
	Median	0.00	0.00	
	Range	0.00–3.00	0.00–1.00	
Total product costs[1]	Mean	**2.64**	**2.35**	**−0.29 (<0.001)**
	Median	**1.52**	**1.65**	
	Range	0.00–20.04	0.00–22.31	
Staff time[1]	Mean	9.65	10.09	**0.44 (0.001)**
	Median	6.9	8.2	
	Range	0–101	0–103	
Total cost per episode	Mean	12.30	12.45	0.15 (0.344)
	Median	11.01	11.57	0.56 (0.076)
	Range	0.45–107.89	0.54–103.68	

1 Statistical *t*-tests showed statistically significant differences between pre-and post-intervention.

Appendix 2 Incontinence Assessment and Management in the Hospital Setting Flowchart



O'Grady, M, Walsh, J, Linke, L, Ip, V. Incontinence Assessment/Management in the Acute Care Setting. IMBED Continence Assessment and Management Expert Panel, 2020.

Appendix 3 Three Day Incontinence Record Chart

3 DAY INCONTINENCE RECORD CHART

Patient label

This Chart is to be completed for the following patients:

1. New onset of incontinence which has not responded to treatment of reversible causes (refer to Incontinence Assessment and Management Flowchart)
2. When regular toileting regimes have failed
3. Prior to referring to a continence specialist or medical officer

DATE	TIME	TYPE OF INCONTINENCE			INTERVENTION /ASSISTANCE REQUIRED* *Voiding was: Self-Initiated (S); Nurse Initiated (N); In bedpan/urinal (P/U); In a commode (C); Incontinence Pad (IC)
		URINE	FAECES	BOTH	

Make and document an individualised toileting plan and discuss at handover after completing this chart over 3 consecutive days

Acknowledgements: Melissa O'Grady (CNC Continence, Sydney Local Health District), Joan Walsh (CNC Urology/Continence/Stomal Therapy, Sutherland Hospital), Shifa Basjarahil (CNC Wound Care, Sutherland Hospital) and IMBED Clinical Expert Group.

Appendix 4 Continence Aids Chart

Guide only. Discuss with Senior Nurse or Manager if needed.

PRODUCT	INDICATION	REASON
Small pad	**Light incontinence.**	**Small volume incontinence.**
Medium pad	**Medium volume incontinence or double Incontinence.**	**The patient will need a long pad to contain urine and faeces.**
Uridome	**Medium to large volume incontinence. Penile diameter needs to be measured to ensure the correct size is applied. A retracted penis is not suitable for a uridome.**	**Urine will drain into a urine bag, therefore there is no need for the pad to absorb urine.**
Tab pad	**High volume incontinence (urine +/- faeces) for patients who are bed bound.**	**High capacity tab pads provide a firm fit to contain urine and faeces even when the patient moves in the bed.**
Pull up	**Only for mobile patients or patients with dementia who will not tolerate any other type of pad.**	**Encourages independence and familiarity as it is similar to underpants.**
Net pants	**To be worn to hold a small pad or medium pad in place.**	**If patient does not have firm fitting underpants then net pants are needed to keep the pad close to the genitals to ensure optimum absorption.**
SAP bed pad Superabsorbent polymer (SAP) can absorb and retain extremely large amounts of a liquid relative to its own mass.	**1. For patients who have intermittent incontinence at night as they get out of bed to use the commode/toilet. 2. Leakage of bodily fluids from wounds, etc.**	**Put a single bed pad on bed to absorb leakage. Ensure bed pad lies flat to prevent pressure areas.**

O'Grady, M., Walsh, J., Linke, L., Ip, V. Continence Aids Chart. IMBED Continence Assessment and Management Expert Panel. 2020

Appendix 5 Patient education brochure on IAD

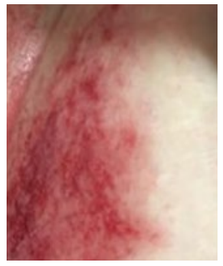
Incontinence and caring for your skin
Information for patients

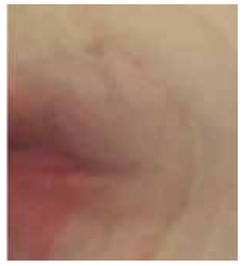
What is incontinence-associated dermatitis (IAD)?

IAD is a common skin condition caused by incontinence. It is an inflammation and injury to the skin caused by continued moisture from urine and faeces. Sometimes, if urine and faeces are on your skin long enough, they can cause swelling, blisters, dryness, flaking or itching.

What does IAD look and feel like?

Signs and symptoms of IAD include redness, pain or tenderness, burning, itching, warmth and discomfort in the areas your skin is in contact with urine or faeces.





Why is it important to care for your skin?

Damp, warm skin can breed bacteria and fungal infections. When skin is moist from urine or faeces for a long time, even gentle rubbing by bed linen, pads, and wash cloths can cause damage to your skin. It can also cause inflammation of the skin called dermatitis.

How can you protect your skin from the effects of incontinence?

It is important after each time you are incontinent to:

- Clean affected areas with a gentle cleanser
- Use a moisturiser and a protective cream
- Avoid using soap and water as that will damage and burn your skin

There are products known as barrier cream cloths that provide an all-in-one cleanser, moisturiser, and skin protection.

How do barrier cream cloths protect your skin when you are incontinent?

Barrier cream cloths help prevent skin injury by cleansing and applying a moisture barrier. They also help treat IAD.

Steps to use barrier cream cloths

STEP 1

After each time you are incontinent:

- Remove your wet or soiled clothes
- Discard disposable pads and undergarments
- Remove any excess urine and/or faeces with a soft warm damp cloth

STEP 2

Open the pack of cloths.

STEP 3

Use a fresh cloth each time to gently wipe, cleanse and protect wet or soiled skin. Do not wipe off.

Important information about the barrier cream cloths:

- Use once only and then discard
- Use after each time you are incontinent, especially if prolonged exposure to wetness is anticipated
- Do not flush the barrier cream cloths down the toilet

Example of Barrier Cloths

Ask your healthcare professional for more information. If you would like to purchase the barrier cream cloths, your health professional can provide you with ordering details.

220223MAY23

This brochure was created as part of a statewide study, funded by a NSW Translational Research Grant and led by Sydney Local Health District, to address incontinence-associated dermatitis.

CONSUMER REVIEWED

220223
Consumer/carer reviewed: 08/22
Next review: 08/24

Appendix 6 Continence assessment and management

The purpose of continence assessment is to:

- rule out or treat reversible causes of incontinence
- prevent painful skin conditions such as IAD
- prevent poor outcomes such pain and discomfort and urinary tract infection.

Incontinence is the involuntary loss of urine or faeces anywhere other than the toilet. Good continence management is crucial to avoid IAD. Particularly, this involves regularly toileting patients. Clinicians should also:

- implement individualised toileting plans according to the patient's needs
- ensure the patient has a safe and accessible pathway to the toilet to avoid falls
- use continence aids as a last resort.

Step 1: Address reversible causes of incontinence

Referring to the Incontinence Assessment and Management Flowchart in Appendix 2 will help guide assessment and management of incontinence.

First consider the reversible causes of incontinence (for example, urinary tract infection or constipation). If incontinence is not due to a reversible cause, move on to Step 2.

Step 2: Establish a toileting plan

If the patient is still incontinent after regular toileting, complete the Three Day Incontinence Record Chart in Appendix 3 over three consecutive days. Understanding the timing and frequency of a patient's incontinence can help establish an individualised toileting plan, which may alleviate incontinence.

Toileting plans can establish when and how frequently patients should be toileted and can be tailored to a patient's abilities and care needs, such as their mobility and nutritional status.[21] For palliative care patients, this chart and timed toileting is not required. Neurology wards may use a more comprehensive continence management program. Patients who suffer from incontinence may be at risk of sustaining a fall.

Please refer to your local policy on falls prevention.

Step 3: Select appropriate continence aid

Ensure the correct product is individualised to the specific needs of the person being assessed by referring to the Continence Aids Chart (Appendix 4). The correct continence aid prevents leakage of urine and faeces, reducing the need for extra bed protection layers.

Involving other disciplines

It is important to consult all relevant multidisciplinary team members to treat and manage reversible causes of incontinence. For example, early referral to an allied health or medical professional, if necessary.

- Refer to the physiotherapist to improve mobility to/from the toilet to avoid functional incontinence and minimise risk of falls.
- Liaise with the occupational therapist to determine the safest and most appropriate toileting techniques, clothing that is easy to wear and equipment to use that is relevant to the patient's needs.
- Inform the medical team of test results and review relevant medications that can improve or worsen the patient's incontinence.

Involving patients and caregivers

Provide patients and caregivers a patient education brochure on the importance of skin care when incontinent (Appendix 5).

Urinary catheters and faecal management systems

Urinary catheters and/or faecal management systems (FMS) should only be used when clinically indicated.[20] They are a last resort for continence management.

Below are examples of clinical indications for a urinary catheter or FMS:

- patients with urinary retention (overflow incontinence)
- patients who are unable to perform clean intermittent self-catheterisation (CISC)
- patients with sacral wounds or severe IAD that will inhibit healing because of urine or faecal contamination.

Minimisation of bed protection layers

Microclimate is the combination of skin temperature, humidity and moisture at the skin surface. When the skin temperature is altered (either too cold or too hot) and coupled with humidity and/or moisture, the skin's sensitivity increases with damaging effects.[22] Some pressure-relieving devices and products (such as active powered mattresses) have been specifically designed to assist in microclimate management, as well as redistributing or offloading pressure by allowing air to flow through the surface. Too much layering will reduce airflow, impair the microclimate, and lead to skin damage.

Layering of sheeting and pads impairs microclimate and increases moisture. This then increases the coefficient of friction on the skin.

- The recommended maximum layering is two layers; the bed sheet and a bed pad are each considered a layer.
- The only bed pads that should be used for incontinence contain super absorbent polymer (SAP), which becomes a gel when mixed with fluid. An SAP bed pad can absorb 50 times its own weight. Use either a SAP bed pad or an appropriate continence pad, not both.
- Bed pads should only be used on the bed if:
  - the patient has leakage of bodily fluids (that is not contained by dressings), or
  - the patient only has small-volume incontinence at night as they can get out of the bed to use the bedside commode/toilet.

Promptly change and clean up all faecally incontinent patients

When a patient is faecally incontinent, the faeces must be promptly cleaned, and the patient's pad changed. Breakdown of the outer surface layer of the skin, the epidermis, will occur when exposed over lengthy periods of time to moisture and the proteolytic enzymes in faeces. Proteolytic enzymes contained in faecal matter actively break down the epidermis.

When skin is damaged by exposure to urine/faeces, the epidermis is also more prone to injury from friction with surfaces such as clothing, incontinence pads, bed linen and chair surfaces.

References can be found in Section 8, on page 20.

Appendix 7 Clean, cleanse, protect, restore

Structured skincare regime

A structured skincare regimen needs to be in place for all patients with incontinence to protect the skin from moisture, regardless of whether they have urine and/or faecal incontinence. The recommended skin care in patients with incontinence includes a four-step regimen including:

1 Cleaning

2 Cleansing

3 Protecting

4 Restoring.[1,23]

Step one: clean

Follow the '5 moments for hand hygiene' at all times. Prepare equipment required prior to commencing. Perform hand hygiene, assess the risk of exposure and don appropriate personal protective equipment (PPE), for example, plastic apron and gloves as a minimum. Clean excess urine or faeces with warm water and a washcloth. The bulk of faeces and urine are to be removed/cleaned prior to cleansing, protecting, restoring.

- Avoid standard (alkaline) soaps and antiseptics.
- Use a gentle technique with minimal friction and avoid rubbing/scrubbing of skin.
- Gently dry skin if needed after cleaning.

Steps two to four: cleanse, protect, restore

Remove gloves, perform hand hygiene (alcohol-based hand rub can be used) and don a new clean pair of gloves. 3-in-1 barrier products, such as the Comfort Shield® Barrier Cream Cloths (Figure 1), are intended to cleanse, protect and restore and simplify care by:

- reducing the number of steps involved
- encouraging adherence to the regimen
- optimising clinician/caregiver time.

On completion, remove soiled products and dispose of appropriately. Remove PPE and perform hand hygiene. Ensure the patient is left comfortable.

Figure 1 Comfort Shield® Barrier Cream Cloths

If a 3-in-1 barrier product is not available, the following cleansing, protecting and restoring procedures are to be adhered to:

Cleanse: Choose a gentle, no-rinse cleanser or pre-moistened wipe with a pH similar to normal skin. Examples include Cutan 3-in-1 Skin Cleanser (body wash, shampoo, conditioner), Microshield Hand and Body Wash, and Microshield Hand Wash.

Protect and restore: Refer to Table 1 for recommended products to protect and restore.

Skin protectants:

- form a barrier between the stratum corneum and moisture or irritants
- help promote resolution of IAD and allow the skin to recover
- provide variable protection from moisture and irritants, depending on the skin protectant ingredients and overall formulation.

References can be found in Section 8, on page 20.

Table 1 Recommended products to protect and restore

Skin protectant ingredient	Pros	Cons
Barrier cream cloths **Example** Comfort Shield® Barrier Cream Cloths 	**3-in-1 cleanse, protect and restore** • Compliance and adherence; all-in-one application. • Saves time. • Transparency allows skin inspection. • Does not require removal. • Reduces burden of care.	• Because of transparency, the clinician may not know this product is on the skin.
Dimethicone **Example** Pharmacy Select™ Dimethicone Cream 	**Protects and restores** • Transparent; allows skin inspection. • Forms a protective barrier layer, increasing skin hydration. • Does not require removal.	• Because of transparency, the clinician may not know this product is on the skin. • Requires cleansing prior to application.
Acrylate terpolymer **Examples** 3M™ Cavilon™ No Sting Barrier Film Wipe or Spray 	**Protects** • Transparent; allows skin inspection. • Does not require removal.	• Because of transparency, the clinician may not know this product is on the skin. • Does not restore. • Need to add cleanse and restore steps.
Skin Protectant Ingredient **Polymeric-cyanoacrylate solution** **Examples** 3M™ Cavilon™ Advanced Skin Protectant 	**Pros** **Protects and restores** • Adheres to wet, weepy and broken skin. • Breathable; moisture can evaporate. • Long wear time.	**Cons** • Because of transparency, the clinician may not know this product is on the skin. • Preferred use in severe cases of IAD. • Expensive. • No indicator for when it has worn away and needs to be reapplied. • Requires drying time.

Management of fungal or bacterial infection with IAD

If a patient has a skin infection in conjunction with IAD (Figures 2 and 3), liaise with the medical team involved regarding appropriate therapy.

- Use barrier cream cloths first, and then immediately apply antifungal cream or powder.
  - If barrier cream cloths are inaccessible, clean, cleanse, protect and restore prior to applying the antifungal.
- Clinical diagnosis is determined by visual inspection.
- Skin swabs are not used as the results are typically inconclusive/unreliable.

Figure 2 IAD with fungal infection

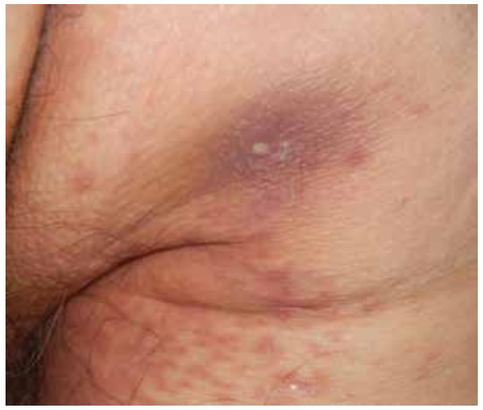
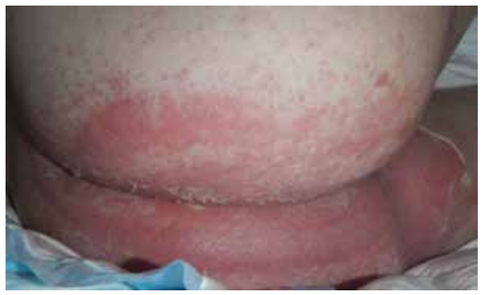


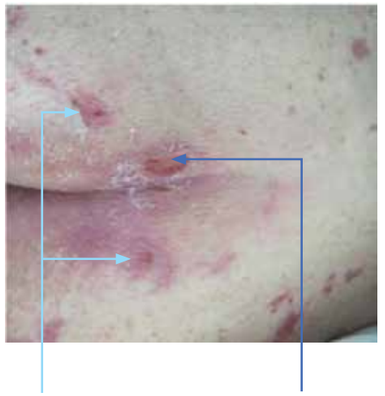
Figure 3 IAD with fungal infection



Appendix 8 Distinguishing IAD from a pressure injury

IAD and pressure injuries have different aetiologies but may co-exist (Figure 1). In some cases, IAD and pressure injury differentiation may not be possible until a management protocol has been in place for 3–5 days, with response to treatment observed. Differences between IAD and pressure injuries are presented in Figure 2 and Table 1.

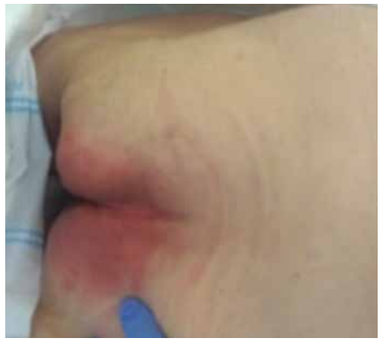
Figure 1 IAD and pressure injury



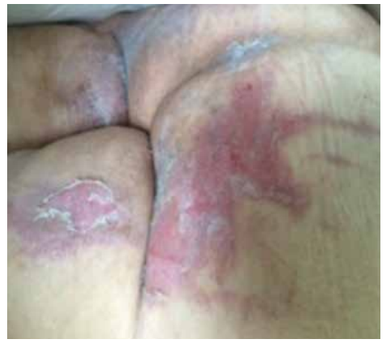
IAD	**Pressure injury**
Poorly defined edges	Over a bony prominence
Appears blotchy	Distinct edges

Figure 2 IAD and pressure injury

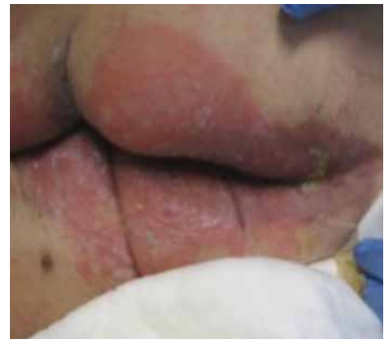
IAD
Category 1A



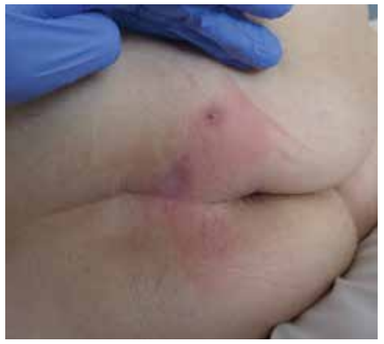
IAD
Category 2A



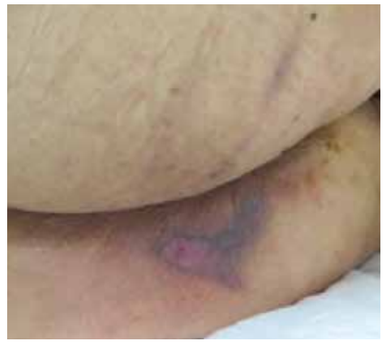
IAD
Category 2B



Pressure injury
Stage 1



Pressure injury
Suspected deep tissue injury



Pressure injury
Unstageable

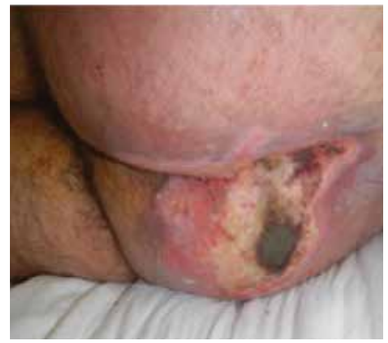


Table 1 Distinguishing IAD from pressure injuries

Parameter	IAD	Pressure Injury
History	Urinary and/or faecal incontinence	Exposure to pressure/shear
Symptoms	Pain, burning, itching, tingling	Pain
Location	Affects perineum, perigenital area, buttocks, gluteal fold, medial and posterior aspects of upper thighs, lower back; may extend over bony prominence	Usually over a bony prominence or associated with location of a medical device
Shape/edges	Affected area is diffuse with poorly defined edges/may be blotchy	Distinct edges or margins
Presentation/depth	Intact skin with erythema (blanchable or non-blanchable), with/without superficial, partial-thickness skin loss	Presentation varies from intact skin with non-blanchable erythema to full-thickness skin loss; base of wound may contain nonviable tissue
Other	Secondary superficial skin infection (eg candidiasis) may be present	Secondary soft tissue infection may be present

Reference: Beeckman D, Campbell J, Campbell K, et al. Incontinence-associated dermatitis: moving prevention forward. *Wounds International*. 2015.

Appendix 9 IAD Prevention and Management Intervention Adherence Tool

Ward _____

Yes = adherence, No = no adherence

Intervention component	Patient 1	Patient 2	Patient 3	Patient 4	Patient 5
Date of observation					
Has a urinalysis been completed on admission or subsequently, in accordance with the Incontinence Assessment and Management Flowchart?					
Is patient's voiding pattern documented in their medical record? • TIP: If utilised by facility, patient's voiding pattern should be documented in the Three Day Incontinence Record Chart					
Correct number of layers • One continence product – SAP (super absorbent polymer) pad OR Pull up/Tab pad					
Appropriate continence pad-both size and type • Pull ups for mobile patients, tab pads for bed-bound patients • Refer to Continence Aids Chart					
Use of barrier cream cloths per best practice guidelines • After each incontinence episode (or at least once daily for patients without IAD)					
Notes on adherence/non-adherence					

Appendix 10 IAD and Incontinence Audit Tool

Guide to completing the IAD and incontinence audit tool

This tool collects data on up to 30 patients.

You should conduct the audit over one day, rather than split it over multiple days.

The actual ward audit should take approximately three to four hours for a 30-bed capacity ward, depending on factors such as the number of patients with incontinence, the number of patients who opt out or are too ill to be audited, and complexity of the patients.

Definition of incontinence

Involuntary loss of urine or faeces anywhere other than the toilet.

Please note the following:

- if the patient has an indwelling catheter (IDC) or stoma they are deemed continent
- a patient can have an IDC and be deemed continent of urine but they can still have faecal incontinence, in which case it should be coded as faecal incontinence, not 'both'
- if a patient has a urinary stoma they can still be faecally incontinent (if they do not have a faecal stoma) but will be continent of urine. Similarly, if they have a faecal stoma, they can still have urine incontinence (provided they do not have a urine stoma or IDC) and will be continent of faeces
- if a patient is incontinent and uses a bed pan they are still incontinent. If they are continent and use a bed pan they are continent
- a patient with a faecal containment device (rectal tube or faecal tube) is deemed incontinent of faeces
- if a patient is wearing a pad 'just in case' and there is no apparent leakage of urine/faeces, the patient is deemed continent.

Soiling

If there is no soiling at the time of the audit, but you know the patient has incontinence, record the general soiling experienced by the patient in the event of an episode of incontinence. You can consult the notes or bedside nurse to obtain this information.

Patient found to be continent

If the patient is found to be continent, note their Incontinent Status as 'No', draw a line down the column until the 'Associated Infection' section and continue collecting data starting from this section for the other skin injuries. All patients, regardless of incontinent status must have skin inspection data collected.

Stool quality and frequency

This section is only to be completed if the patient has faecal incontinence. Do not collect data relating to the patient's stool quality and frequency if the patient only has urine incontinence.

- stool quality (based on the Bristol stool chart)
  - Formed: ranging from separate hard lumps to a formed motion
  - Semi formed: from soft blobs to fluffy pieces with ragged edges, mushy stool
  - Liquid: watery, no solid pieces; entirely liquid.

Underpads/bed protectors

More than one can be selected.

Incontinence pads

Note the pad type and size (extra small [XS], small [S], medium [M], large [L], and extra-large [XL]).

Incontinence clean up and skin protection products

In the 'Notes' section please note the product used to clean or protect the skin.

IAD category

Refer to the provided GLOBIAD Tool to categorise the IAD (The Ghent Global IAD Categorisation Tool).

Associated infection

Associated infection refers to any secondary skin infection/s associated with incontinence, such as candidiasis (thrush), other fungal infections and satellite lesions papules or pustules appearing in the areas of skin that may be affected.

Patient with non-IAD skin injuries

Any patient with an associated infection, pressure injury, skin tear, MASD, or other skin injury must have the following noted in the 'Notes' section:

- bed number
- location of this skin injury

There is further information that must be collected and recorded for the following:

- MASD: identify the cause (perspiration, wound, intertriginous dermatitis, irritation/scratching, stoma). If there is another reason, please note it down
- pressure injuries: stage the pressure injury
- other skin injuries: specify the type of skin injury.

Incontinence and IAD Audit Tool

Date

Time

Assessor

Ward

Important:
If patient or family opts-out, the audit cannot proceed for that patient.

		Bed																													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Patient opted out Y = Yes, N = No (If Y, record reason)																															
Age Years																															
Sex M = male, F = female																															
Skin tone F = fair, M = medium, D = dark																															
Mobility B = bed bound, R = restricted, F = full mobility																															
Incontinence status F = faecal only, U = urinary only, B = both, N = no																															
Urinary catheter in situ Y/N																															
Soiling H = heavy, M = medium, L = low																															
Stool quality and frequency Complete only if patient has faecal or faecal and urinary incontinence. F = formed, S = semi-formed, L = liquid																															
Faecal containment device Y/N																															
Stoma U = urinary, F = faecal																															
Underpad/bed protector Multiple can be selected K = Kylie, P = plastic, B = Bluey, SAP = SAP bed pad, DS = draw sheet																															
Incontinence pad 1 = small (insert), 2 = medium (insert), 3 = all-in-one/tab pad, 4 = pull up, 5 = net pant/mesh brief (can accompany insert pads). Multi-select available																															
Incontinence clean up and skin protection products B = barrier cream cloth, C = cleanser (eg soap, water and cloth), M = moisturiser (eg cream, lotions), BP = barrier protection (eg zinc cream, barrier sprays), TM = topical medication (eg antifungals). Please note product used (including brand) in Notes section on the next page																															
IAD category Note the location and stage in Notes column (1A, 1B, 2A, 2B)																															
IAD present on admission Y/N																															
Associated infection Y/N (If Y, note bed and location in Notes column)																															
Pressure injury Y/N (If Y, note bed, location and stage in Notes column),																															
Pressure injury present on admission Y/N																															
Skin tear Y/N (If Y, note bed and location in Notes column)																															
MASD Y/N (If Y, note bed, location and cause in Notes column. Causes include perspiration, wound, intertriginous dermatitis, irritation/scratching, stoma)																															
Other skin injury Y/N (If Y, specify skin injury type and note bed and location in Notes column)																															

Notes

Note bed number and patient observations including products used, IAD category (if applicable), pressure injury stage (if applicable) and location of any skin injuries.

Remember to specify brand of the product(s) used, for example, Avagard General Moisturising Barrier Lotion.

Common locations affected by IAD: Buttocks, Coccyx, Rectal area, Scrotum/labia, Lower abdomen, Upper thighs, Gluteal Cleft, Groin.

Incontinence and IAD Audit Tool

Bed number	Notes
Example: Bed 2	Category 2 IAD with severe excoriation extending to upper thighs

Appendix 11 Barakat-Johnson Incontinence-Associated Dermatitis Knowledge Tool (Know-IAD)

The Barakat-Johnson Incontinence-Associated Dermatitis Knowledge Tool (Know-IAD),[1] an 18-item validated instrument that measures knowledge of incontinence-associated dermatitis (IAD) in the domains:

- aetiology and risk
- classification and diagnosis
- prevention and management

The survey takes approximately 5–10 minutes to complete.

The administering items are shuffled to minimise the probability of the responses being affected.

Tool development

The survey was developed by five international clinician-researcher experts in IAD (Associate Professor Michelle Barakat-Johnson, Dr Jill Campbell, Anne Marie Dunk, Professor Dimitri Beeckman and Professor Fiona Coyer) who have extensive experience in IAD care and research, and four of whom were authors of the international best practice principles.[2] The IAD best practice principles guided the formation of items in the tool, as well as a comprehensive review of the literature pertaining to IAD and findings from previous studies[3,4] and included literature pertaining to existing instruments that assessed clinician knowledge on IAD. The survey underwent a content validation process with a panel of 15 individuals from one state in Australia, comprising 13 clinical experts from the fields of nursing, medicine and dietetics, and two consumer representatives. Each panel member assessed each item for clarity, relevance and essentiality. Minor changes were made based on their feedback.

Validity and reliability

The survey has been demonstrated to have good properties of validity and reliability.[1] Items demonstrated high scale content validity ratios (CVR) scores on relevance (0.748) and clarity (0.815); and high scale-content validity indices (CVI) scores on relevance (0.874) and clarity (0.907). Construct validity was demonstrated by good model fits in the confirmatory factor analysis process for aetiology and risk and prevention and management of IAD, and an adequate fit for the classification and diagnosis subscale. Composite reliability was good in the aetiology and risk subscale (0.75) and the prevention and management subscale (0.75); and adequate in the classification and diagnosis subscale (0.64).

Scoring

The response options are in forced-choice format: true/false/don't know. One point is awarded for each correct response. An incorrect response, a missing response, or a response of "don't know" scores zero points for the item. All items are weighted equally. Domain scores were constructed as a simple total of scores of individual items within that domain. Hence, the ranges of possible scores were as follows for each domain:

- aetiology and risk (0 to 7 points)
- classification and diagnosis (0 to 5 points)
- prevention and management (0 to 6 points)

Sum scores of each domain are calculated to obtain the total score. The maximum score is 18 and a mean knowledge score of 70% is considered to be satisfactory.[1]

Studies utilising the Know-IAD

One study has been conducted in one state in Australia utilising the Know-IAD (n = 428).[5]

For permission to use the tool, please email Associate Professor Michelle Barakat-Johnson at michelle.barakatjohnson@health.nsw.gov.au

References

1 Barakat-Johnson M, Beeckman D, Campbell J, et al. The development and psychometric testing of a knowledge tool on incontinence-associated dermatitis for clinicians (Know-IAD). *J Wound Ostomy Continence Nurse*. 2022; 49(1)70-77.

2 Beeckman D, Campbell J, Campbell K, et al. Incontinence-associated dermatitis: moving prevention forward. *Wounds International*. 2015.

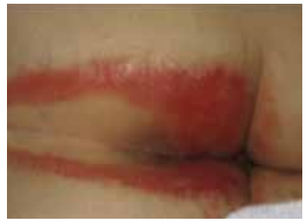
3 Barakat-Johnson M, Barnett C, Lai M, Wand T, White K. Incontinence, Incontinence-Associated Dermatitis, and Pressure Injuries in a Health District in Australia: A Mixed-Methods Study. *J Wound Ostomy Continence Nurse*. 2018;45(4):349-355.

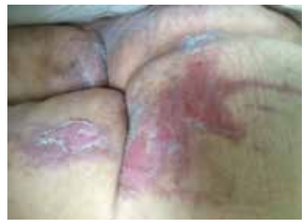
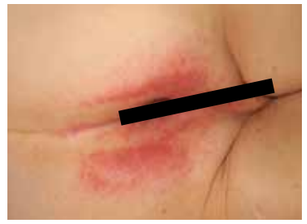
4 Barakat-Johnson M, Lai M, Wand T, Coyer F, White K. Cultivating Incontinence-associated Dermatitis Prevention Practices in an Australian Local Health District: A Quasi-experimental Study. *Ostomy Wound Manage*. 2018;64(12):16-28.

5 Barakat-Johnson M, Stephenson J, Basjarahil S, et al. Clinician knowledge of incontinence-associated dermatitis: A multisite survey of health care professionals in acute and sub-acute settings. *J Wound Ostomy Continence Nurse*. 2021; Accepted.

The Barakat-Johnson Incontinence-Associated Dermatitis Knowledge Tool (Know-IAD)*

For each question, mark the box for True, False, or Don't know.
Please read each question carefully and ensure that you answer each question.
This survey takes approximately 5–10 minutes to complete.

Question	True	False	Don't know
1 Incontinence-Associated Dermatitis (IAD) is skin damage associated with urine or faeces affecting more than just the perineal area.			
2 IAD cannot be prevented if the patient suffers from sudden severe incontinence.			
3 Using water and soap to cleanse the skin after episodes of incontinence will reduce the skin pH and will lower the risk for IAD development.			
4 Risk factors for development of IAD are compromised mobility and inability to perform personal hygiene.			
5 IAD is a risk factor for the development of both superficial and deep pressure injuries.			
6 A thick application of zinc ointment applied with an absorbent incontinence pad will reduce the risk of IAD for incontinent patients.			
7 The incidence of IAD is generally less than 5% in patients in elderly care units.			
8 Hospitalised patients suffering from incontinence should have a systematic skin inspection performed every 48 hours.			
9 This picture can be classified as IAD category 1B - Persistent redness with clinical signs of infection. 			
10 Candidiasis (thrush) is one of the most common secondary infections associated with IAD.			
11 In over 60% of clinical observations, IAD is mistakenly diagnosed as a pressure injury or vice versa.			
12 This picture depicts a pressure injury Category 2/Stage 2. 			
13 All-in-one large pads (nappy style) should be worn by all incontinent patients as part of IAD prevention even if the incontinence is infrequent.			

Question	True	False	Don't know
14 In some cases, IAD and pressure injury differentiation may not be possible until a management protocol has been in place for 3–5 days with response to treatment observed.			
15 This picture can be classified as IAD category 2A – Skin loss without clinical signs of infection. 			
16 Using soap and water with a washcloth is effective in preventing skin infections associated with IAD.			
17 Prevention of IAD should only be aimed at patients with frequent liquid stool.			
18 Management of IAD in this picture should comprise of a skin cleanser, moisturiser, protectant/barrier and, in cases such as candidiasis (thrush), a microbiology sample to decide on other appropriate therapy. 			

Thank you for your time.

*Barakat-Johnson, M., Beeckman, D., Campbell, J., Dunk, A. M., Lai, M., Stephenson, J., & Coyer, F. (2021). The development and psychometric testing of a knowledge tool on incontinence-associated dermatitis for clinicians (Know-IAD tool). Jou*rnal of Wound Ostomy and Continence Nursing*. 49(1)70-77.

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