Clinical Incident Severity Rating (ISR) Model

Guidance for health services implementing the VHIMS MDS version 2

OFFICIAL

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Introduction

The Department of Health (the department), in partnership with Austin Health, has developed a revised model for the calculation of the Incident Severity Rating (ISR) for clinical incidents reportable under the Victorian Incident Management System minimum dataset (VHIMS MDS).

Changes to the model address misalignment between the previous model and definitions and requirements outlined in the department and Safer Care Victoria (SCV) policies, as well as concerns about the appropriateness of the model in classifying some incidents. The revised model also aims to streamline and improve the transparency of incident severity calculations.

The new model has been tested for interpretability, consistency, accuracy and coherence with health services, Safer Care Victoria (SCV), and relevant policy and program areas in the department, and has been endorsed by the department for implementation as part of the VHIMS MDS, version 2.

What is a Clinical ISR?

The ISR of a clinical incident classifies the impact of the incident on the patient that is wholly or partially attributable to an incident. There are four severity ratings within the clinical ISR model:

- ISR 1 – Severe
- ISR 2 – Moderate
- ISR 3 – Minor
- ISR 4 – No Harm

The ISR determines the minimum level of review and action required in response to an incident and ensures that incidents which have the more severe impact on patients are prioritised for review and learning.

While the ISR determines the minimum review obligations, there is no restriction on a higher level of review and action being undertaken for an incident.

How to use this document

This document provides health services with additional information to support implementation of the revised ISR model for clinical incidents, including further detail on the composition and application of the model.

This document should be read in conjunction with the **VHIMS MDS Manual 2024−25,** which outlines data definitions, business rules and submission requirements for the VHIMS MDS.

This document uses the term *patient*, which is intended to include patients, clients, residents or consumers, noting different terms are relevant for different parts of the health system.

This document uses the term *adverse patient safety event (APSE),* which encompasses all clinical incidents where treatment or care did not go as expected or intended. This definition of APSE applies to all services regardless of if they are currently subject to the *Safer Care Victoria APSE policy.*

About the new Clinical ISR model

Calculation of Clinical ISR

In the new clinical ISR model, the ISR is calculated from three sequential elements:

1. *Level of harm*
2. *Duration of harm*
3. *Level of treatment/care*

See detailed definitions of each element below.

In some cases, severity will be determined based on level of harm only. In other cases a combination of the level of harm, duration of harm, and level of treatment/care will be used to determine the ISR. See **figure 1** for further detail.

The ISR is a system-generated element in the VHIMS MDS. Values transmitted for the three elements listed above are used to recalculate the ISR in the VHIMS system using the same algorithm that calculates the ISR in local IMS software. The ISR itself is not transmitted from the local IMS.

Level of harm, Duration of harm, and *Level of treatment/care* values must be individually updated where applicable during or following the investigation, to ensure the ISR calculated in the MDS is accurate.

Changes to Clinical ISR

Changes to the clinical ISR model focus on four key areas to support better alignment with departmental policy and sector expectations:

- Remove illogical combinations (e.g. a level of harm of “no harm did reach person” combined with a level of care of “internal transfer for advanced care”).
- Cease use of composite values - where two variables are referenced within a singular value (e.g. external transfer for advanced care)
- Combine *Level of treatment* and *Level of care* into a singular element to capture response required.
- Separate *Level of harm* and *Duration of harm* into different elements (e.g. severe harm can include both permanent lessening of function and temporary harm where there has been a significant reduction in function).
- Embed a person-centred framework within the clinical ISR model.

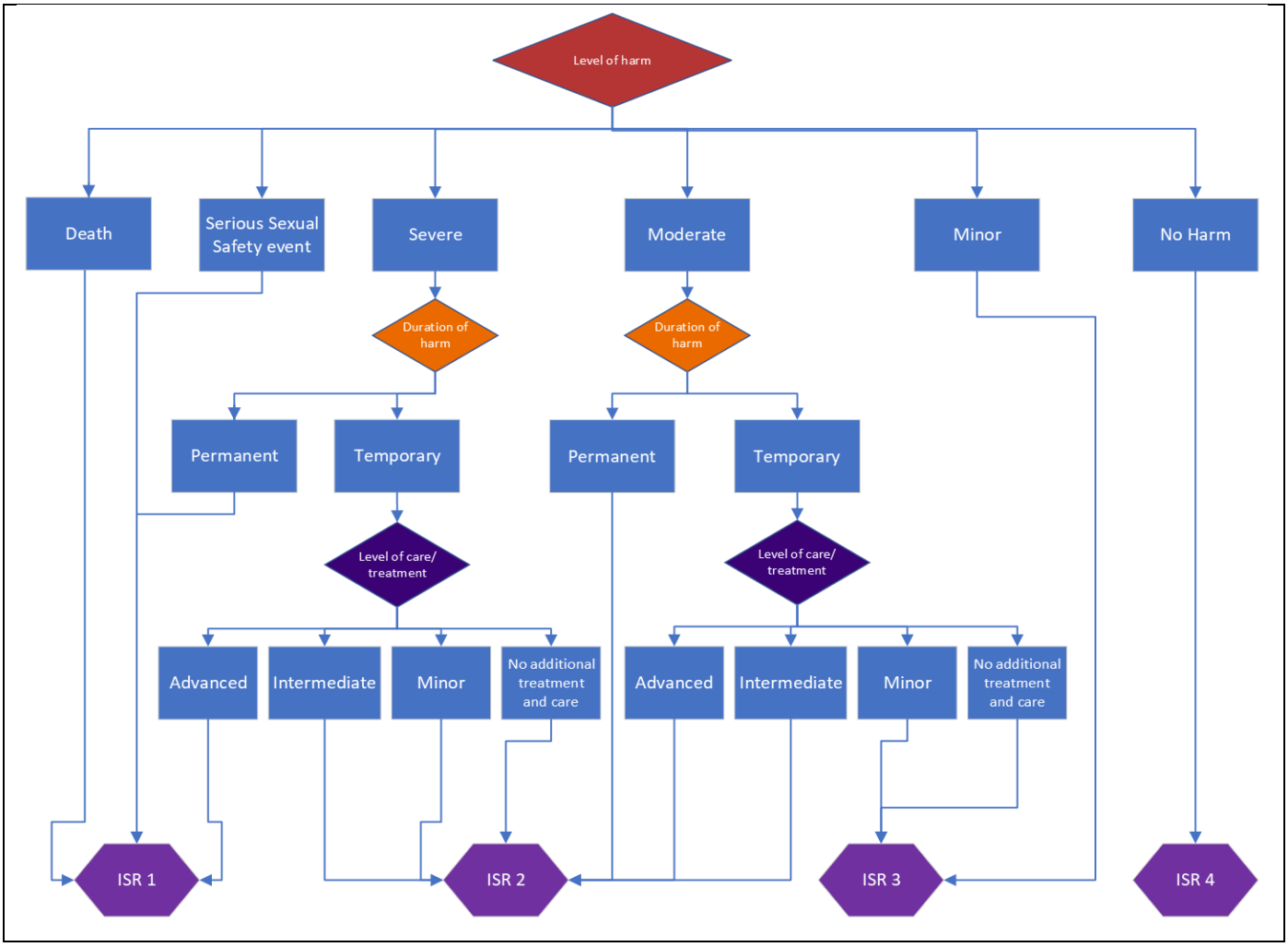

Figure 1. Clinical ISR logic map

ISR elements

Level of harm

The level of harm describes the impact of the incident on the patient's health, function, and emotional wellbeing. Harm encompasses physical and psychological injury. Examples of harm include:

- Disease: a psychological or physiological dysfunction.
- Suffering: experiencing anything subjectively unpleasant. This may include pain, malaise, nausea, vomiting, loss (any negative consequence, including financial) depression, agitation, alarm, fear, or grief.
- Impairment (disability): any type of impairment of body structure or function, activity limitation and/or restriction of participation in society, associated with a past or present harm.
- Death.

Principles for assigning level of harm

- Use a person-centred, trauma-informed approach to determine the level of harm. This means the same incident may result in a different level of harm for different patients.

- The level of harm should reflect any harm the patient experienced because of the incident, including because of treatment or care they received in response to the incident.
- If the level of harm cannot be definitively determined at the time of reporting, a 'most-likely' framework should be employed, and the record updated if/when new information emerges.
- The highest level of harm applicable to the incident should be assigned.

Level of harm values and descriptions

Value	Value Description
Death	On the balance of probabilities, death was caused or brought forward in the short term by the incident.
Serious Sexual Safety Event	The harm has resulted from a serious sexual safety event; defined as a sexual safety event: • where major harm (psychological and/or physical) has occurred. For example, a serious sexual assault such as suspected or alleged rape (as defined by the Crimes Act) or statutory rape (illegal sexual activity between an adult and a minor). • that results in pregnancy.
Severe	The individual has or is likely to experience: • permanent lessening in the functioning that is unrelated to the natural course of the individual's illness or underlying condition including permanent impairment, disability, or a shortened life expectancy because of the incident, or • significant reduction in level of function because of the incident (e.g. dependence on high acuity care), that is temporary in nature.
Moderate	The individual's level of health, function, or emotional wellbeing was or is likely to be affected because of the incident. The harm required, or is likely to require medical, surgical, or therapeutic intervention. The harm sustained or intervention required is, or is likely to: • be invasive, or • require a change to care acuity, or • involve sizeable risk for the individual, or • involve sizeable burden for the individual, or • increase the individual's length of stay or treatment period beyond what is reasonably expected in treating the individual's illness or underlying condition, or • lead to a prolonged length of stay in a care setting, or • result in a reduction in the degree of responsiveness to treatment or curability, or • lead to prolonged psychological harm (greater than 28 days) including prolonged pain and stress. Harm that results from a significant sexual safety event* should also be classified as moderate. When in doubt, where an individual has come to harm and the harm is of greater impact than the minor harm but does not involve severe harm, a serious sexual safety event, or death, moderate harm should be used.
Minor	The individual's level of health, function, or emotional wellbeing was, or is likely to be, temporarily affected because of the incident. The harm was or is likely to be resolved without change to care acuity, in a non-invasive way, that involves little to no risk for the individual.

No harm	The individual's level of health, function, or emotional wellbeing was unaffected, but the individual could have come to harm. No harm came to the individual either because no harm was sustained or because the incident was avoided.

A significant sexual safety incident results in the individual requiring increased levels of care, including:

Significant harm has occurred (psychological and/or physical). Some instances of sexual assault – for example, non-consensual touching while clothed. Sexual activity that may result in pregnancy or transmission of a sexually transmitted infection and testing is necessary. Incidents where there is a suspicion that a sexual assault may have occurred although parties are not reporting this. Incidents where an affected party responds in a way that may indicate a sexual assault has occurred and had a substantial impact. This may present in a range of ways – for example, if an affected party is acutely distressed, appears numb, flat or dissociated, or is very controlled in their response. Incidents where there is suspected coercion, transactional sexual activity, predatory behaviour or a power imbalance between parties. Sexual activity involving one or more minors (under 18 years old).

Key changes to level of harm

- References to the number of body systems affected in value descriptions have been removed.
- The level of harm value is no longer defined in terms of the duration of harm (i.e. whether the harm is permanent or temporary) except in the instance of minor harm. Duration of harm is considered in a separate element.
- The category of severe harm can include both permanent lessening of function and temporary harm where there has been a significant reduction in function.
- A single no-harm value is used, rather than distinguishing between whether the harm did or did not reach the person.
- References to serious and significant sexual safety events have been introduced. This terminology was initially introduced by the Office of the Chief Psychiatrist (OCP) for mental health bed-based services in the OCP's 'Sexual safety incidents – Chief Psychiatrist's reporting directive – September 2023'. Following consultation with DH agencies, this vocabulary has been incorporated within the VHIMS level of harm element for application across all health services.

Duration of harm

The duration of harm is used to indicate whether harm experienced because of an incident is likely to be permanent.

Principles for assigning duration of harm

- If the duration of harm cannot be definitively determined at the time of reporting, a 'most-likely' framework should be employed, and the record updated if/when new information emerges.
- Harm should be considered permanent if the individual will experience an ongoing reduction in function, impairment, disability, enduring and significant risk of serious harm, or the individual's life expectancy has been shortened as a result of the incident.
- In the case where the patient dies of unrelated causes, if harm would have been temporary then it is reasonable to consider the harm as temporary.
- For psychological harm, a formal diagnosis may be relied upon to indicate if permanent harm has occurred.
- Where an individual has been both permanently and temporarily harmed, the harm of the greatest impact on the individual should be considered when assessing the duration of harm.

Duration of harm values and descriptions

Value	Value Description
Permanent	The harm the individual experienced is, or is most likely to be, permanent.
Temporary	The harm the individual experienced is, or is most likely to be, temporary.

Level of treatment/care

The level of treatment/care describes the treatment and/or care provided in response to an incident that the patient would have otherwise not required if the incident had not occurred. It includes treatment and care provided by any organisation, not just the organisation where the incident occurred.

Principles for assigning level of treatment/care

- Use a person-centred approach to determine level of treatment/care. This includes consideration of:
    - risks incurred by the individual during or because of treatment/care (e.g., risk of complication or poor outcome)
    - physical or psychological symptoms experienced by the individual during or because of the treatment/care (e.g., distress and anxiety, pain, scarring, stress due to social burdens such as financial burden or time or distance from family)
    - impact of the intervention on the pre-existing care plan for the individual (e.g. changes to existing medication regime, impact on rehabilitation opportunities, delays to commencing, or amendments to the originally intended treatment or care plan).
- If the level of treatment cannot be definitively determined at the time of reporting, a ‘most-likely’ framework should be employed, and the record updated if/when new information emerges.
- The highest level of treatment/care applicable to the incident should be assigned.
- If the patient died of an unrelated cause before treatment/care could be provided or if the patient declines treatment or care, then it is reasonable to assign the level of treatment/care based on the treatment or care the patient would most likely have required if the incident had not occurred.

Level of treatment/care values and descriptions

Value	Value Description
Advanced	Life-saving care or treatment*, intensive care unit, major surgical or medical intervention, high dependency psychiatric care, long-term care or other high acuity specialist care, or a change to the individual's goals of care, that would not have otherwise been required if the incident had not occurred.
Intermediate	Surgical or medical intervention, psychiatric or psychological care, extended medium-term care, therapeutic intervention, invasive diagnostics, increased length of stay greater than 72 hrs, referral to additional care team/s (including emergency department) for treatment exceeding assessment or single occasion treatment, or an increase in acuity of hospital care beyond increased monitoring and observations that would not have otherwise been required if the incident had not occurred.

Minor	First aid, minor therapeutic interventions, increased monitoring or observations, minor or one occasion counselling or psychological support, non-invasive diagnostics, or referral to additional care team/s (including emergency department) for assessment or single occasion treatment that would not have otherwise been required if the incident had not occurred.
No additional treatment and care	No additional treatment or care was required besides an initial review to establish if the individual was harmed.

***** Life-saving surgical and medical treatments can include but are not limited to, advanced life support measures such as intubation or emergency surgery.

Note: Value descriptions include examples of treatment/care and are not exhaustive. Where a treatment or care has been provided in response to an incident that is not described below, professional judgment should be used to assign the level of treatment/care most applicable.

Key changes to level of treatment/care

- References to transfer of care have been removed. The level of treatment/care is influenced by the treatment or care the patient receives during or following the transfer, not by the transfer itself. Transfers may be a necessary part of providing appropriate care in some health service types.
- References to specific treatments (e.g., CT, MRI) in the value descriptions have been removed. In previous models, this was found to inflate overall ISR for certain incidents. This change reflects the acknowledgement that treatments may have different impacts on different individuals.

Relationship with APSE flag

The Adverse Patient Safety Event (APSE) flag has been introduced in the VHIMS MDS, version 2 to enable reporters to indicate if an incident is also an APSE, that is that treatment/care did **not** go as intended and expected. In this instance, treatment/care refers to the treatment/care provided at the time of the incident, not the treatment/care that was provided in response to the incident.

Whether an incident meets the definition of an APSE or not should not impact the determination of ISR but is relevant in determining the appropriate governance for the incident.

The APSE flag and ISR are used together to determine if an incident meets the definition of a SAPSE for services under the statutory duty of candour (SDC) obligations.

If the following criteria are met and the health service is under SDC obligations, then the record may be considered a SAPSE:

Incident type = “Clinical”
ISR = “1” or “2”
Clinical incident flag = “Yes”
Did treatment or care go as intended and as expected = “No”

Please refer to *Clinical incident and APSE flags: Guidance for health services implementing the VHIMS MDS, version 2* and the *VHIMS manual 2024−25* for further information.

Alignment with other reporting systems

There are several incident reporting systems that exist across the Victorian health system outside of VHIMS. These include (but are not limited to):

- Sentinel event reporting
- Serious Incident Response Scheme (SIRs)
- Critical Incident Reporting (CIR) pathway
- Sexual Safety Incident Reporting
- Electroconvulsive treatment adverse events reporting.

Where these systems use the VHIMS ISR to categorise severity, the new clinical ISR model aligns with reporting obligations available as of April 2024.

It is not intended that the VHIMS clinical ISR model to be used to categorise incident severity or determine reporting obligations, for systems that use other definitions of harm (e.g., for SIRs, which uses “Minor” and “Major” harm).

Case examples

The following cases are presented to demonstrate the application of the *clinical ISR.*

Case: Rebecca

Rebecca (54 years old) has been suffering from end-stage kidney disease for two months. As part of her treatment regimen, Rebecca receives renal dialysis three times a week via a permacath. At her regular renal dialysis appointment, Rebecca’s nurse notices that the skin around her permacath site is red and swollen. Rebecca reports to the nurse that she had been experiencing body aches and has been feeling feverish for the last two days.

Rebecca is admitted to a hospital ward and a swab of her permacath site is taken. It is identified that Rebecca has contracted a methicillin-sensitive staph (MSSA) infection. Rebecca is referred to the Infectious Diseases (ID) unit, her permacath is removed and she is commenced on a course of intravenous (IV) antibiotics. Tests confirm the infection has entered Rebecca’s bloodstream. During this time Rebecca experiences significant fatigue and headaches and is distressed by the serious nature of the infection she has contracted. The ID team continue to monitor Rebecca for signs of sepsis and her care team conducts regular blood cultures and wound monitoring.

While in hospital Rebecca misses shifts at work and is separated from her family. Her next scheduled dialysis treatment is required to be brought forward a day and she requires a temporary line to be put in to provide her dialysis. Rebecca responds well to the IV antibiotic treatment and is discharged home from hospital after five days. Rebecca can continue her previous dialysis treatment regimen but remains on oral antibiotics for an additional 14 days. She requires a new permacath site due to scarring at her original site.

Level of harm

Rebecca’s level of health, function and emotional wellbeing were affected by the incident. Rebecca contracted an MSSA infection, which carries a substantial risk of mortality. Rebecca also experienced the physical symptoms of the infection and the psychological distress resulting from the serious nature of the infection. She also faced a sizeable burden in having to submit to a five-day hospital admission because of the incident.

This would be considered a **moderate** level of harm.

Duration of harm

Rebecca experienced scarring at her original permacath site which could be considered permanent harm, however, the greatest impact to Rebecca was the infection. The infection was able to be treated, and therefore the harm is not considered permanent.

This would be considered a **temporary** duration of harm.

Level of treatment/care

Rebecca required a five-day admission to an acute ward of a hospital as a result of the incident. She required treatment she otherwise would not have required had the incident not occurred. She was subjected to the removal of her permacath which is a painful procedure and also required IV antibiotics and the insertion of a temporary line which increased her infection risk. Additionally, Rebecca required a new permacath to be inserted in a new site.

This would be considered an **intermediate** level of treatment/care.

Assigning the ISR

Based on the level of harm, duration of harm and level of treatment/care this incident has an **ISR of 2.**

Case: **Harry**

Harry (88 years old) is a resident at an aged care facility. Harry experiences mild dementia but is physically well and has been assessed as safe to walk independently with the aid of a four-wheel walking frame.

Harry is sitting in an armchair in the recreation area and attempts to stand from his seated position using his four-wheel walking frame as a support. His walking frame tips over and Harry falls to the floor landing on his left side. Upon hearing him fall, a nurse attends to Harry and establishes that he has not hit his head and has not sustained any significant physical injuries.

Over the next few days, Harry develops bruising on his left side and is reluctant to mobilise independently as he is fearful of falling again. This reduces his engagement in his usual recreation and social activities. The nurses report this to Harry's family when they next visit, and with his family's support and encouragement over the next week, Harry begins to use his walking frame again.

Level of harm

Harry's level of health, function and emotional wellbeing were affected by the incident. Harry experienced bruising, and his lack of confidence using his walking frame suggests that he was also experienced psychological harm. This harm was temporary in nature and resolved without intervention beyond the care Harry was already receiving.

This would be considered a **minor** level of harm. Where harm is minor, the duration of harm and level of care/treatment are not required to determine the ISR.

Assigning the ISR

Based on the level of harm, this incident has an **ISR of 3**. Where the level of harm is minor, the duration of harm and level of care/treatment are not required to determine the ISR.

Case: Tony

Tony (65-year-old project manager) is admitted to hospital with community-acquired pneumonia and infective exacerbation of asthma. He has a history of asthma, heart disease and type 2 diabetes. Tony has previously

had an anaphylactic reaction to penicillin and confirms his allergies with his nurse during his admission process.

While admitted Tony continues to deteriorate despite being on IV antibiotics (ceftriaxone and azithromycin). Upon review, a junior doctor prescribes him Tazocin, not recognising that Tazocin is a penicillin. Shortly after the Tazocin is administered, Tony begins to feel an increased shortness of breath with a wheeze, becomes flushed and complains of gastrointestinal discomfort. A MET call is made, and the doctors attend promptly. It is determined that Tony's symptoms are due to his asthma, and he is given nebulised salbutamol. He continues to deteriorate and starts to develop angioedema of his tongue, hypotension and his oxygen saturation drops significantly. A senior doctor attends and recognises that Tony is experiencing an anaphylactic reaction to the Tazocin and commences treatment with IM adrenaline.

Tony does not respond to multiple doses of adrenaline and suffers a cardiac arrest from hypoxia and obstruction of his airway. A code blue is called and advanced life support measures are immediately commenced. Due to Tony's severe airway oedema, he cannot be intubated and requires emergency tracheostomy on top of anaphylaxis management. Tony's condition eventually stabilises after 30 minutes of resuscitation, and Tony is taken to an operating theatre for a formal tracheostomy.

Tony spends the next 30 days in ICU due to difficulties weaning from the ventilator and requires haemofiltration for acute renal failure. Fortunately, Tony does not incur any permanent neurological harm from this event. He eventually returns home after a period in rehab but requires a frame to walk and increased assistance from his family for toileting and showering. He is unable to return to work during this time. Due to his persistence and compliance with rehab, Tony makes a full recovery after 6 months.

Level of harm

Tony's level of health, function and emotional wellbeing were affected by the incident. Tony sustained a significant reduction in his level of function and was dependent on high-acuity care for his heart, lung, and kidney function. His ability to participate in his daily life was significantly reduced for 6 months.

This would be considered a **severe** level of harm.

Duration of harm

As Tony was able to make a full recovery therefore the harm is considered **temporary.**

Level of treatment/care

Tony required life-saving care and treatment, intensive care admission, invasive, painful, and burdensome interventions, an extended hospital stay and rehab, and significant support following discharge.

This would be considered an **advanced** level of treatment/care.

Assigning the ISR

Based on the level of harm, duration of harm and level of treatment/care this incident has an **ISR of 1**.

Case: Emma

Emma (31 years old) receives community mental health support to assist with managing her schizophrenia. A nurse attends Emma's house to assist with medication supervision. When the nurse dispenses the medication from Emma's Webster pack he notices that a 200mg Clozapine tablet (anti-psychotic medication) has not been included. The nurse explains the error to Emma and her siblings and apologises. Emma and her family members are grateful the nurse identified the error and report they will not be inconvenienced by a

short delay. The nurse returns the Webster pack to the pharmacy to have the error corrected before returning to Emma's house an hour later to administer the medication.

Level of harm

Emma's level of health, function and emotional wellbeing were unaffected by the incident. This is considered a near-miss incident.

This would be considered a **no-harm** level of harm.

Assigning the ISR

Based on the level of harm, this incident has an **ISR of 4**. Where the level of harm is no-harm, the duration of harm and level of care/treatment are not required to determine the ISR.

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