



Dose Confusion When Switching Insulin Delivery Devices

Insulin products are supplied predominantly as solutions with a standard concentration of 100 units/mL. However, several high-concentration products are available for patients who require relatively high doses because of significant insulin resistance.

These high-concentration products are often provided in product-specific injection delivery devices. Failure to consider the differences among insulin products, including the insulin concentration and the delivery device, can lead to serious dosing errors.

ISMP Canada received a report of a dosing error with a high-concentration insulin product. A patient was switched from Humulin R 500 units/mL (a multi-dose vial obtained through Health Canada's Special Access Programme) to Entuzity KwikPen 500 units/mL (in a prefilled pen obtained through the community pharmacy).

The patient reported that the Humulin R dose was measured as 30 units on the syringe. The physician then wrote the new prescription for Entuzity KwikPen 30 units twice daily. The patient declined pharmacist counselling at the time the prescription was dispensed, indicating familiarity with the use of high-concentration regular insulin. However, after using the Entuzity KwikPen product for more than a week, the patient experienced hyperglycemia and had to be treated in hospital.

Dosing errors with high-concentration insulin products and related insulin delivery devices are preventable. All health care practitioners involved in prescribing, dispensing, monitoring, or providing education about insulin use should be aware of the need to determine the type and concentration of insulin, the insulin dose in terms of units, and the delivery device when communicating with patients and others in the circle of care. Key recommendations include:

- Determine a patient's insulin usage by confirming the type(s) of insulin, the concentration(s), the dose(s) in terms of units, and the delivery method or device used to administer each dose (i.e., syringe, insulin pen, or pump).
- Encourage patients to always describe their insulin dose in terms of units whenever they are asked for this information.
- Encourage patients who are switching insulin products to record and closely monitor their blood glucose after the change.
- When obtaining medication from Health Canada's Special Access Programme, prescribers should advocate for community pharmacies to be kept in the communication loop.

For a more detailed description of the incident, the community pharmacist's identification of the dosing error, several contributing factors, and system-level recommendations to prevent recurrence, the full ISMP Canada Safety Bulletin can be accessed [here](#).

Article provided by Ambika Sharma, Medication Safety Specialist, ISMP Canada

Shared Learning Opportunities

Wrong Patient Incident

A 26-year-old female presented at the pharmacy to receive her daily witness of anti-retroviral medication, as well as a second medication of Sulfatrim 400/80mg.

As a routine practice, all daily witness medications are stored in separate boxes, one for each patient. However, on this occasion the patient's medication was in another patient's box.

The employee grabbed the compliance card from the box that was supposed to contain the patient's medication for administration and just prior to administration, the patient noticed that the card did not contain the Sulfatrim and questioned if this medication was for her. The employee confirmed that the card was for a different patient and retrieved the correct card.

Although the patient did not receive the incorrect medication, this incident was considered a near miss and was discussed amongst the staff to determine if any system-based solutions could be implemented. It was determined after review of the incident and discussion that the following actions would be implemented:

1. The patient's identity will be confirmed by two staff when they present at the pharmacy counter.
2. Once the patient's identity has been confirmed, the patient's medication will be retrieved.
3. A double-check of the patient's name on the card by the individual witnessing all doses will be instituted.

These interventions will be monitored for effectiveness.

This incident was reported here with the involvement and permission of the Saskatchewan community pharmacy.

Incidents that Occurred Due to Non-Traditional Dispensing Procedures

Community pharmacists and pharmacy technicians sometimes offer non-traditional dispensing services that may not involve the usual linear medication-use process. Some of these procedures involve dispensing methadone, administering injections, and compounding mixtures, etc. These alternative dispensing procedures may have a greater potential of causing significant patient harm if errors occur.

High-Risk Procedures

High-risk procedures that were prevalent among reported harm incidents involved daily methadone dispensing, administering injections, and compounding.

Methadone and compounding incidents were often related to calculation errors, leading to over-dosing of methadone or preparation of an inappropriate mixture. Other incidents involving injections and methadone were associated with a lack of pharmacy staff training in these high-risk procedures.

<p>High-Risk Procedures</p> <p>Incidents that involve community pharmacy services (e.g. methadone, injections, compounding) that have a greater risk of causing significant patient harm when errors occur.</p>	<p>Pharmacist was preparing the patient's daily Methadone dose. During the dispensing process, the pharmacist went to assist another staff member before returning to finish the Methadone preparation. Patient received 10 times his regular dose. Patient felt unwell and had to be hospitalized.</p>
	<p>An intramuscular vaccine was administered subcutaneously, and the patient developed hives, welts, and redness at the injection site.</p>

To reduce errors, pharmacy managers must ensure that all members of the pharmacy team are informed, educated, and trained on the standardized procedures. In addition, independent double-checks should be included in all high-risk procedures (e.g. verifying calculations and methadone volume, etc.).

Parts of the above information was reprinted from ISMP's Canada Report – COMPASS Harm Incidents Qualitative Analysis – July 2019 (pages 6-7).

We want to hear from you!

One of the goals of COMPASS is to promote shared learning between Saskatchewan pharmacies regarding incidents, unsafe practices and other important issues to improve pharmacy care in Saskatchewan.

One way to promote shared learning would be to report an interesting incident/error that occurred within your pharmacy.

If your pharmacy has had an incident that would be a good learning opportunity for other Saskatchewan pharmacies, please forward it to SCPP Medication Safety at info@saskpharm.ca. Any information regarding the pharmacy and the person who provided the details of the incidents/errors will be kept anonymous.

The College encourages open sharing of incidents/errors so everyone can learn from them.

Contact Us

Statistics

Statistical reports are provided to bring awareness of the importance of identifying, reporting and discussing medication incidents. A total of **29,600** incidents have been reported to the Community Pharmacy Incident Reporting (CPIR) database between December 1, 2017 and October 31, 2020. The statistics below relate to this time period.

Outcomes

- **17,930** reported incidents had an outcome of NO ERROR/NEAR MISS, which means the incidents were intercepted BEFORE they reached the patient.
- **10,852** NO HARM incidents, which means the incidents reached the patient, but did not cause harm.
- **818** reported incidents did result in HARM, with most of these in the category of MILD or MODERATE HARM. There have been two incidents reported with an outcome of DEATH.

Incident Types – Top Three

- Incorrect dose/frequency – **6,949**
- Incorrect quantity – **5,122**
- Incorrect drug – **4,922**

378 pharmacies have either started or completed their Medication Safety Self-Assessment (MSSA) online data entries

681 Continuous Quality Improvement (CQI) meetings have been held

The SMART Medication Safety Agenda

The SMART (Specific, Measurable, Attainable, Relevant and Time-based) Medication Safety Agenda was introduced by the Institute of Safety Medication Practices Canada (ISMP Canada) to increase shared learning among pharmacies.

Each edition of the newsletter deals with a specific drug or process within a community pharmacy and the related incidents that have occurred. The cases described are actual medication incidents anonymously reported into the Community Pharmacy Incident Reporting (CPIR) program. Potential contributing factors and recommendations are provided for users to initiate discussion and encourage collaboration towards continuous quality improvement in the pharmacy.

By putting together an assessment or action plan and monitoring its progress, the SMART Medication Safety Agenda can help raise awareness regarding similar medication incidents in the pharmacy.

The topic of the latest edition of the SMART Medication Agenda is **Drug Tapering and Titration**. All previous editions of the SMART Medication Safety Agenda can be found under the COMPASS link on the SCPP website under [COMPASS Newsletters](#).

More

MedSCIM Assessments

The MedSCIM tool was developed by ISMP Canada as an assessment tool that is currently being used during the QIR (Quality Improvement Review) process.

The MedSCIM assessment involves looking at the narratives of selected medication incidents reported by the pharmacy to CPhIR and assessing these reports for completeness and the maturity of safety culture.

There are **three** levels for assessing the reports' completeness:

- **Level 1 – Report fully complete** – The medication incident provides sufficient information to describe the medication incident and contributing factors.
- **Level 2 – Report semi-complete** – The medication incident provides sufficient information to describe the medication incident. No information is provided about contributing factors.
- **Level 3 – Report is not complete** – The medication incident provides insufficient information to allow meaningful qualitative analysis.
- There are **four** levels for assessing the maturity of safety culture:
- **Grade A – Analytical** – The medication incident uses a systems-based approach to describe the root causes and develop possible solutions to prevent future recurrence.
- **Grade B – Calculative** – The medication incident uses a systems-based approach to describe the root causes. No solutions are offered to prevent future recurrence.
- **Grade C – Reactive** – The medication incident is treated as an isolated incident. No solutions are offered to prevent future recurrence.
- **Grade D – Pathological** – The incident focuses on human behaviours instead of a systems-based approach.

The desired level of assessment would be **1A**, where the report is fully complete, and the narrative indicates a generative culture. For more information on MedSCIM see page 59-60 of the [Quality Improvement Coordinator Manual](#).

Read more

Medication Incident Cheat Sheet

During the Quality Improvement Reviews (QIRs), the MedSCIM ratings for the majority of medication incidents reported are between 2B – 3C, with a handful of reports obtaining a 1A rating.

SCPP has received very positive feedback from pharmacy managers on the usefulness of the MedSCIM assessment in identifying areas for improvement with respect to incident narratives.

Many have indicated a quick reference sheet when entering an incident would be very helpful to ensuring the reports are complete. Therefore, to assist pharmacy staff in ensuring that the information that they are providing to CPhIR through their incident reporting is both complete and indicates a mature safety culture, SCPP has created a Medication Incident Reporting Cheat Sheet.

Pharmacies are encouraged to print off the cheat sheet and have it handy when medication incidents are reported. Please see below a copy of the cheat sheet. Click the image to access a copy for printing.

More



Contact

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