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STONEY HEALTH SERVICES POLICY AND PROCEDURES		MEDICATION MANAGEMENT MASTER POLICY	
Effective: March 2, 2015	**Policy code:** PP + TITLE	**Applies To**:	✓ Leadership & Operations ✓ Programs & Services ✓ Client, Family & Community
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Related Policies and Procedures: SHS Reporting, Analysis and Resolution of Safety Incidents Policy, SHS Oxygen Therapy, SHS IPAC Policy, SHS Depo Provera Policy, SHS B12 Injection Policy, SHS Iron Injection Policy; Health Canada, First Nations and Inuit Health Branch (2016) Guidelines for Handling & Administration of Methotrexate for Non-Chemotherapy Indications; SHS Anaphylaxis Protocol.

A. INTRODUCTION: All aspects of Medication Management treated in this document are aligned with the practices outlined by the Institute for Safe Medication Practices and the Qmentum Standards of Accreditation Canada.

B. STANDARD: Stoney Health Services has a formal Medication Management System that promotes a collaborative approach to promote safe and effective medication management. Oversight, monitoring, reporting and system improvements are assured by the Medication Safety Committee. Medication Management priorities include special attention to high alert medications and situations, medication reconciliation, preventing and reducing medication errors and near misses by reviewing all aspects of the medication management process (i.e. prescription, selection, preparation, dispensing and administration), support of self-management by clients, training of SHS personnel and physicians, Medication Utilization Reviews and ongoing improvement related to medication management.

C. RATIONALE: Safe medication practices are strategic priorities for SHS. Research shows that poor communication about medications can cause adverse medication events and that certain ambulatory care sensitive condition are more commonly associated with adverse medication events (i.e. asthma, chronic obstructive pulmonary disease, diabetes, high blood pressure and heart diseases). These errors can be a serious threat to client safety at the Stoney Nation. Despite our best efforts, they can happen frequently to every kind of practitioner. The margin of safety depends upon the comprehensiveness, communication and clarity of policies and procedures surrounding safe medication practices as much as upon the training and ability of healthcare professionals. All members of the healthcare team share the responsibility with the client and his or her significant others for the safe management of medications. Misinterpreted abbreviations can result in omission errors, extra or improper doses, administering the wrong drug, or giving a drug in the wrong manner. In return, this can lead to an increase in the length of stay, more diagnostic tests and changes in drug treatment. Properly conducted medication reconciliation reduces the possibility that medications will be inadvertently omitted, duplicated, or incorrectly ordered at transitions of care.

D. POLICY: All SHS personnel and contracted service providers (i.e. physicians) shall comply with this Medication Management Policy in line with applicable regulations and their scope of practice according to the procedures in this policy.

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1. **ACCESS TO MEDICATION PRESCRIPTION PADS:**

   a. **Authorised Access**: Access to medication prescription pads and the prescribing function in the EHR is limited only to authorized SHS personnel directly involved in prescribing: Physicians and Nurse Practitioners .

   b. **Home Care**: The Home and Community Care Manager may have access to prescription pads in order to draft a prescription for the purpose of ordering equipment for clients (i.e. Incontinent supplies, mobility and ADL equipment), that will then be reviewed and completed by an authorized prescriber.

   c. **WOLF EMR**: Medications should always be prescribed through the WOLF EMR, except if WOLF EMR access is not possible. For these situations, prescription pads will be kept in the locked medical supply room accessible by the Clinic Nurse or delegate. For security reasons, each prescription pad will be tracked on the sign-out sheet to ensure that signed-out pads are returned promptly. (See Appendix 1).

2. **ACCESS TO MEDICATION INFORMATION BY SHS PERSONNEL:** Physicians and nurses have access to written and electronic medication-related information in the workplace. There is also a hard copy of the Compendium of Pharmaceuticals and Specialties (CPS) in the SHS Clinic Office. This includes current protocols as well as guidelines for dosing recommendations and the type and frequency of monitoring required for specific medications. SHS personnel also have access to the on-site pharmacist during weekday business hours only (Morley Pharmacy Pharmacist).

3. **ADMINISTRATION AND HANDLING OF MEDICATIONS:** See also 'Preloading Medications ' under Assisting Clients/Families with Medication Self-Administration'

   a. **General Considerations** (See Also *'Prescribing Medications*', Section 33): Professionals that are administering medications are accountable for: knowing what medications are prescribed, administering them correctly, understanding the need for medication, knowing and monitoring therapeutic and non-therapeutic effects, and education regarding the medication. Some general considerations for medication administration are as follows :

      i. Handling of medications is restricted to authorized personnel.

      ii. Determining the client's history of allergies must be carefully assessed and documented before administering medications for the first time.

      iii. If a client's medication is deemed high alert, see Independent Double-Check Procedure (Page 9)

      iv. A review of the client's medical history should be carried out prior to initiating new medications and doing a BPMH. This review should include any current/past diseases or illnesses that may

place the client at risk for adverse medication effects, indications or contraindications as well as a review of prescribed medications/OTC products/natural remedies already taken regularly or on an as-needed basis. NB: This is especially important when initiating IV medications. *(Reference: AHS Professional Practice and Development Intravenous Medication Administration, August 2009, pg 17).*

v. All authorized personnel will first refer to the client's medication prescription each time medication is administered using the "Seven Rights of Medication Administration" (see Appendix II) and verify date, time and method of last medication administration.

vi. All clients shall be monitored to determine the effects of medication on progress towards treatment goals as well as for possible patient safety incidents involving medications. Regular discussions shall be held with the client and/or family about this.

vii. A verbal order followed by a written order must be obtained prior to giving any medication. The order should contain the ordered dose/concentration, method and frequency of administration. (See also 'Verbal and Telephone Orders', Item 46)

b. Direct Observed Therapy: TB medications are ordered by Alberta Health Services TB Services in Edmonton and are received at the Health Centre. They are identified with three (3) patient identifiers. Nursing personnel shall verify client medication and implement teaching for all new cases. Once therapy has begun, any member of SHS personnel must observe the client taking his/her medication either at the Health Centre in the community provided they have a good understanding of the process. This must then be signed by the observer in the DOT Compliance Record (Appendix III).

c. Independent Double-Check: All SHS personnel and contracted physicians must follow an independent double-check procedure between two healthcare professionals before administering or assisting with self-administration of high-alert medications. If more than one high-alert medicating is being administered, medications shall be double-checked separately. NB: The *most critical aspect* of an independent double check is to maximize the independence between health care providers by ensuring that the first does not communicate what he/she expects to the second to see as this would create bias and reduce the visibility of an error. The following method shall be used.

i. Double-Check Method: The first healthcare provider must not communicate what he/she expects the second health care provider to see. The second health care provider performs the independent double-check without any advance knowledge of what findings to expect. Health care providers completing the independent double-check separately and individually must verify the Seven Rights of Medication Administration (Appendix II) before the medication is administered. They shall verify calculations are correct (when required for determining correct dose/concentration) and that the correct dose and/or concentration have been prepared. When

a manual calculation of a dosage is required, each staff must perform the calculation independently (includes use of a calculator).

ii. Discrepancies: In the event of any discrepancies, the independent double-check steps are conducted again by the first and second health care professionals: a) If discrepancies are still found, consult a third health care professional to resolve discrepancies prior to administration of the medication. b) If, following a third health care professional's verification, discrepancies remain unresolved, the first health care professional is must consult with the authorized prescriber to clarify medication orders. *(*Source: Adapted from AHS, Independent Double-Check Policy, April 13,2016)*

iii. Exceptions: When the preferred process of two health care professionals performing independent double-check is not possible, one of the following alternative processes may be implemented.

- *First Option:* Where the medication has been prepared and checked at the pharmacy, but the sole health care professional was not present, the sole health care professional performs the role of the second professional in the independent double-check process prior to administration.

- *Second Option:* One health care professional working in a setting alone, without access to another health care professional will complete all steps of the independent double-check once. He/she will then step away and perform another task (delaying self-verification of work increases the chance of detecting errors); then return and repeat the required step.

iv. Remote Access (e.g. via telephone or other mobile link) to another health care professional may be used to verify medication orders settings where the remote participant has access to the most current prescriber order.

v. Documenting Double-Checks: The health care providers administering and independently double-checking the medication must each sign in the patient record once the medication has been administered. The first signature is that of the health care provider administering the medication and the second signature is that of the person independently double-checking the medication. Health care providers may request an independent double-check for any medication, if they assess that they require assistance for verification (e.g. complex calculations, new/investigational medications).

vi. IV Double-Checks: Due to the infrequency of administration of all I.V medication at SHS, it is also recommended that personnel independently double check (by another nursing staff member) I.V. medication calculations including the following: safe dose, reconstitution, dilution, rate of infusion and drip rate.

d. Injectable Medications: Intradermal, Subcutaneous and Intramuscular Techniques: See the links below for information on how to perform Intradermal, Subcutaneous and Intramuscular injections**.**

i. Intradermal Technique : See AHS Standard for the Administration of Immunizations (May 1,2018) , p.9 ; https://www.albertahealthservices.ca/assets/info/hp/cdc/if-hp-cdc-ipsm-standard-administration-immunization-06-100.pdf

ii. Subcutaneous Technique : See AHS Standard for the Administration of Immunizations (May 1,2018) , p.13 ; https://www.albertahealthservices.ca/assets/info/hp/cdc/if-hp-cdc-ipsm-standard-administration-immunization-06-100.pdf

iii. Intramuscular Technique : See AHS Standard for the Administration of Immunizations (May 1,2018) ,p.11 ; https://www.albertahealthservices.ca/assets/info/hp/cdc/if-hp-cdc-ipsm-standard-administration-immunization-06-100.pd

iv. NB: See also, Z-track method in SHS Iron Injection Policy.

e. Injectable Medications - Intravenous Therapy: Parenteral IV medications *via peripheral line* may *only* be administered by authorized SHS personnel within the following parameters: *(*Reference: AHS Intravenous (I.V.) Therapy Peripheral Access Initiation, Monitoring and Discontinuation Policy #1-3, pg 1-4, revised 2010.01)*:

i. General considerations for administering I.V. medications include:

- No IVs are used in radiology.
- SHS personnel or physicians do not administer I.V. antineoplastic, narcotic or psychotropic medications at any time.
- SHS personnel and physicians do not insert or assist with central line therapy under any circumstances.
- Authorized nursing personnel are not permitted to administer I.V. High Alert medications.
- I.V. medication is always secondary to a primary infusion; therefore, the primary line must be present and consist of Normal Saline or other compatible solution to medication. If primary solution is not compatible to medication, the medication must be secondary to the primary solution of Normal Saline. Compatible solutions to the ordered medication will be noted on the parenteral monograph.

ii. Prescribing IV Medications: An order by a physician or other authorized prescriber (i.e. Nurse Practitioner) is required to initiate intravenous therapy. The order must specify the type of solution and the rate of flow/infusion. A verbal order must be followed by written order.

Registered Nurses and LPNs (*NB: with the proper additional certification*) may initiate I.V. lines at the Health Center.

iii. Assessment of Potential IV Sites: See also Appendix IV for I.V. Site Selection Criteria. In the consideration of sites for the initiation of I.V. therapy, the assessment of veins should start from the distal perspective and move proximally. Rate of flow and type of solution to be infused should also be considered in vein selection. Where possible, use the smallest gauge and shortest length venous access device that will complete the prescribed therapy. This applies except in an emergency event where blood transfusion may be considered after the client is transported to the hospital by the EMS. In this case, a 20-gauge I.V. cathlon should be used. The veins in the antecubital fossa should also be avoided, where possible.
Prior to I.V. cannulation of the arm of a client who has a compromised lymphatic or circulatory system, neurological deficits and/or a history of mastectomy, axillary node dissections, dialysis fistula/graft insertion or history of stroke, a thorough nursing assessment and deliberate consideration of alternatives is carried out. The unaffected side of the patient/client should only be used if possible.

iv. Site Rotation: IV sites are to be rotated as follows:

- *Adults: Every 72 hours and as needed;*
- *Saline Locks: Every 72 hours and as needed;*
- *Pediatrics: I.V. sites are changed on an as-needed basis ONLY.*

v. IV Administration Sets, Tubing and Solutions: I.V. administration sets and tubing are to be changed every 72 hours with each new venous access device and as needed. All "ends" on the I.V. tubing must be capped in order to maintain a sterile closed system, when unhooked from the saline lock. I.V. solution containers are to be changed at least every 24 hours. They may be changed more frequently depending on the stability of the medication added to the solution.

vi. Labelling: The following are to be labeled with: Date, Time, and signed Initials

- *Solution containers when hung*
- *I.V. administration sets/ tubings*
- *I.V. site dressing following I.V. cannulation*.

vii. I.V. Site Dressings: The venous access device site dressing is either a sterile transparent dressing or a sterile gauze dressing. Sterile transparent dressings should only be changed

when the site is wet or the dressing loses adherence to the skin. Sterile gauze dressings are changed every 24 hours and as needed if wet or soiled.

viii. Equipment for Initiating I.V.s: This equipment is kept in a labelled cupboard in the Treatment Room and includes:

- *Sterile dressing: transparent (Tegaderm/Opsite) or gauze*
- *Prefilled syringe with Normal Saline (2-5 mls)*
- *0.5%-2% 70% alcohol swab*
- *Labels for tubing & I.V. solution container*
- *Normal Saline, 50, 100 & 500 cc I.V. solution.*
- *I.V. tubing/administration set*
- *Sharps container*
- *Sterile wound closure strips, if required*
- *I.V. Cathlon*
- *Tourniquet*
- *Tape*
- *Absorbent pad*
- *Gloves, non-sterile*
- *Injection cap*
- *I.V. pole*
- *Arm Board (Optional)*
- *Extension set with injection cap (optional)*

ix. IV Initiation Technique: (*Reference: Alberta First Nations Home Care Program Procedures Manual CSD 289-91, Revised March 8, 2002*)

- *Ensure there is a prescriber's order, or in the event of an emergency, attempts will be made to obtain a verbal order followed by a written order by a physician/Nurse Practitioner.*
- *Review client allergies*
- *Explain purpose, procedure of the I.V. to the client and its approximate duration.*
- *Prepare I.V. solution, tubing and cathlons. Prime administration tubing with I.V. solution.*
- *No more than four failed attempts in total are to be made when initiating a peripheral venous access on an individual patient/client, except in emergencies. Use the smallest I.V. cathlon needed for the I.V. therapy to avoid trauma to the vein.*
- *Label bag with client's name, date, time and initials.*
- *Label tubing with date, time and Initials.*
- *Aseptic technique is required when inserting, manipulating or removing a venous access device. Wash hands, apply non-sterile gloves.*
- *Assess venous access options - apply tourniquet proximal to preferred I.V. site and request client to open and close fist on non-dominant, healthy arm and palpate for a suitable vein.*

- *Cleanse I.V. venipuncture site using alcohol swabs and allow to air-dry.*
- *Maintaining aseptic technique, use thumb of non-dominant hand to apply tension down on tissue and vein distal to injection site, hold the I.V. cathlon at 15-30 degrees angle with bevel up and enter the skin directly on top of the vein with a fluid movement (a blood flashback indicates the tip of the needle is in the vein).*
- *Decrease angle of the needle to 15 degrees to the skin and slowly advance the catheter into the vein and begin to remove the stylet from the hub of the catheter. Once the catheter has advanced in, apply pressure to the vein beyond the catheter tip (occludes the vein and prevents blood spills) and completely move the stylet and place in sharps container.*
- *Release the tourniquet while holding the I.V. catheter steady.*
- *Start saline lock and prime tubing.*
- *Connect IV catheter using push-pause technique with 3-5 mls of Normal saline. If IV patent, connect primed tubing to saline lock and regulate flow.*
- *After the medication infused, disconnect line from I.V. extension. If a Normal Saline Lock is in place, proceed with Saline Lock procedure. If orders are to discontinue, follow Intravenous Discontinuation Procedure*

  (NB. If I.V. site is already established or saline lock is in situ, follow Saline Lock Procedure, page 16) to confirm patency of I.V site.

x. Calculating IV infusion Rates For Adults & Children: SHS does not use infusion pumps. Therefore, to calculate I.V. infusion rates for adults use the drip rate formula as shown in the example below.

Macro drip Infusion Rate Calculation Example:

$$\frac{125 \text{ mls/hr} \times 10 \text{ drops/ml}}{60 \text{ minute}} = 20 \text{ drops/min}$$

- After calculating the drip rate, hold your watch next to the drip chamber to allow simultaneous observation of the time and drops. Adjust the flow rate until you have the correct amount of drops falling in a minute. *See Appendix XI for AHS South Zone Intravenous Therapy for additional information on IV Rate Calculation, pg. x, 10/02/2012, as referenced.*
- Once the I.V. site is confirmed as patent and healthy, apply sterile transparent or gauze dressing.

- ❖ Remove gloves and wash hands.
- ❖ Loop I.V. tubing and tape to the client's limb to prevent accidental dislodging
- ❖ Reassess client in approximately 15 minutes to ensure client not experiencing allergic reaction or adverse drug reaction to I.V. medication.

xi. Parenteral IV medications for Pediatric and Adults Clients: Pediatric and adult clients should receive I.V. medications at the Stoney Health Center for first and second doses; or, exceptionally when it is necessary to closely monitor compliance with a full course of treatment at the Health Centre. Close monitoring of IV infusion rates shall be carried out by SHS personnel, with particular attention to pediatric clients. NB: The SHS Anaphylactic Protocol is applied in case of allergic reactions.

xii. Central Lines: No central lines or I.V. pumps are used at the Stoney Health Centre. If an order is received to give intravenous medication via a central venous site, this will only be carried out by Home Parenteral Therapy (HPTP) personnel.

xiii. Emergency Situations :In an emergency situation (i.e. Code Blue, continuous seizures, resuscitation, etc.), an intravenous infusion of Normal Saline may be initiated by Registered Nursing personnel while the Nurse Practitioner, the on-site physician or the Nakoda EMS (as the case may be) is being contacted. If there is no physician or Nurse Practitioner on site, RAAPID (403-944-4488) can be accessed on the phone in the Treatment Room via Speed Dial 05. *(Reference: AHS Intravenous Therapy Peripheral Access Initiation/Monitoring/Discontinuation, 2010, 01)*.

The Nurse Manager for Community Health, Primary Care & Public Health shall be notified of all emergency situations as soon as possible. He/she will conduct a debrief in the shortest possible delay to ensure that proper procedures were followed and to address any outstanding issues.

xiv. Home Care Clients on Infusion Therapy: Periodically, Home Care clients are treated with infusion therapy. SHS Home Care personnel can initiate subcutaneous infusions. In-home IV therapy is limited to one-dose infusions (i.e. antibiotics). Home Care nursing personnel must remain in the home for the duration of the infusion and saline lock the site upon completion. Home Care does not initiate IV infusion therapy in the home, but will support client/family self-management with IV infusions initiated by an external agency. SHS personnel can access parenteral drug formulary/monographs via the MULTRUM application in WOLF or from the Morley pharmacy This information must be present and readable prior to giving an I.V medication.

f. Documenting IV Therapy : Documenting I.V.s should include:

- Date and time of initiation
- Location: Be as specific as possible, regarding vein, and anatomical location
- Size/gauge of I.V. catheter
- Number of attempts
- Type, amount and rate of solution administration or saline lock establishment
- How procedure was tolerated
- Client teaching given
- Any difficulties that may have occurred.

(Reference: AHS Intravenous (I.V.) Therapy Peripheral Access: Initiation/Monitoring/Discontinuation Policy #1-3, pg. 6, revised 2010.01).

g. Client Teaching Related to IV Therapy: Client teaching about the care of an intravenous site is ongoing. It begins with the initial contact prior to starting an I.V. with an explanation of the need for I.V. therapy and continues on for the length of the therapy as questions arise. Clients should also be made aware that once I.V. therapy has begun, it should not be painful. Reinforce that if the client experiences pain at the insertion site or up the arm, redness, swelling at the site, numbness and/or that the area feels cold or hot, he/she should let their healthcare provider know. *(Reference: AHS Professional Development. Intravenous Therapy Learning Module South Zone-West, May 2014, pg 33).*

Additional instructions about the care of the I.V. that the client/family should be aware of include:

i. Keep the site covered and dry at all times (i.e. when showering).
ii. Do NOT adjust the rate/flow.
iii. Keep the site below heart level to prevent backflow of blood.
iv. Note: Check for any additional client education materials that may be available and applicable to share with your client.

h. Complications Related to IV Therapy: See Appendix XI for Localized Complications, Systemic Complications, and I.V. Troubleshooting *(Reference: AHS Professional Development. Intravenous Therapy Learning Module South Zone-West, May 2014, pgs. 8, 13, 14, 28, 31, 32, 33)*

i. Monitoring IV Therapy: *(Reference: AHS Intravenous (I.V.) Therapy Peripheral Access: Initiation/Monitoring/Discontinuation Policy # 1-3, pg 6, revised 2010.01).* Ongoing surveillance and monitoring of the I.V. system and venous access site is required. The following aspects are to be considered when monitoring intravenous therapy:

i. <u>I.V. Functioning:</u>

- ❖ Rate alterations
- ❖ Alterations in flow due to positioning
- ❖ Air in line
- ❖ Medication precipitation or crystallization

ii. Integrity of the System: Site to bag assessment.

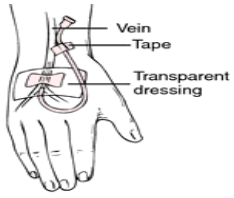
iii. Venous Access Site Assessment: To assess a Peripheral I.V. site prior to use, patency should be confirmed by flushing with Normal Saline using a push-pause technique and a Pulse Positive Pressure of 2-5 mls on the syringe. NB: Give short, jerky pushes on the plunger until 0.5 mls of normal saline is left in the syringe. Remove the syringe while still injecting and clamping the line at the same time. *(Reference: Alberta First Nations Home Care Program, Procedure Manual March 8, 2002, CSD-297)*.

iv. Assess I.V. sites on an ongoing basis for:

- ❖ Change in patency
- ❖ Warmth
- ❖ Pain
- ❖ Edema
- ❖ Leakage
- ❖ Exudate
- ❖ Extravasation
- ❖ Skin integrity and dressing integrity
- ❖ Numbness or tingling
- ❖ Loss of limb function

Note: If I.V. is interstitial (i.e. not in the vein but in the surrounding tissue), nursing interventions will be determined by the characteristics of the fluid and/or medications that have entered into the interstitial space. The prescriber should be notified of interstitial I.V.s. If an infection is suspected, a swab of the site taken and the catheter tip sent for C&S. See Appendix XI for more information on Localized and Systemic Complications of Interstitial I.V.s.

J. Saline Lock: In the event that I.V. therapy is being used intermittently, the intravenous access device is locked with 2-5 mls of normal saline. To lock the intravenous access device, use a blunt cannula syringe prefill with normal saline. Instill 2-5 mls of normal saline in I.V. access device using the push-pause technique/pulse positive pressure technique by giving short, jerky pushes on plunger until 0.5 mls of normal saline is left in syringe, remove syringe while still injecting and clamp line at the same time. Equipment for Saline Locks includes:



- ❖ Blunt cannula

- ❖ 70% alcohol swabs
- ❖ 3-5mls syringe x 2
- ❖ Sterile Normal Saline

*(Reference: *Alberta First Nations Home Care program, Procedure Manual March 8, 2002, CSD-297)*

K. Discontinuing IV Therapy*: Equipment needed to discontinue an I.V. includes non-sterile gloves, tape and sterile gauze. The procedure is as follows:

- o Check the prescriber's order.
- o Stop the flow of fluid.
- o Wash hands and put on gloves.
- o Hold venous access device in place, remove tape and dressing toward I.V. cathlon site.
- o Hold sterile gauze gently over I.V. cathlon site while swiftly removing the cathlon.
- o Ensure I.V. cathlon is intact. Notify prescriber immediately if cathlon is not intact when removed.
- o Apply pressure to site with sterile gauze. If client on anticoagulants, apply pressure for at least one (1) minute.
- o Secure sterile gauze dressing over site.
- o Document: Reason for discontinuation/removal, client teaching, condition of site, and if appropriate health professionals were notified.

*(Reference: *AHS Intravenous (I.V.) Therapy Peripheral Access: Initiation/Monitoring/Discontinuation Policy #1-3, pg 8, revised 2010.01).*

4. ALLERGIES: All nursing and medical personnel are responsible for updating allergy information in the client record as needed. Special attention shall be paid to this upon the introduction of new medications.

5. ANAPHYLAXIS MANAGEMENT*:* See SHS Anaphylaxis Protocol.

6. ASSISTING WITH MEDICATION SELF-MANAGEMENT BY CLIENTS/FAMILIES: Medication self-management by SHS clients is a strategic priority, especially given the prevalence of polypharmacy clients in the Stoney Nation. Encouraging safe self-management of medications and other traditional products by the client and/or his/her family is also a key element of our holistic, self-determination approach at SHS. Clients' needs for support with decision-making related to their specific self-management needs is variable. Self-management strategies should be individually adapted to each client's learning capacity and needs as well as being supported by a close collaborative relationship between the primary care provider and the client/family. Medication self-management includes the following behavioral, educative and psychosocial strategies (See also Appendix VIII, Insulin Pen Start Checklist).

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Related Policies and Procedures: SHS Reporting, Analysis and Resolution of Safety Incidents Policy, SHS Oxygen Therapy, SHS IPAC Policy, SHS Depo Provera Policy; SHS B12 Injection Policy; SHS Iron Injection Policy; Health Canada, First Nations and Inuit Health Branch (2016) Guidelines for Handling & Administration of Methotrexate for Non-Chemotherapy Indications; SHS Medication Management Audit Tool

Professional care providers assist clients/families with medication self-management**.** Non-regulated SHS personnel can also assist clients/families with medication self-management. They do, not however, have access to client files at SHS so they must be provided with basic, written information about these medications as well as the reasons for taking them, any allergies, and or adverse drug reactions, clients have by the nurse overseeing the care of the patient. Non-regulated SHS personnel who assist with medications are given training and education on how to watch for allergic or adverse reactions, and how to respond if a reaction occurs (i.e. CPR). Non-regulated SHS personnel do oversee taking for TB meds. See Direct Observation therapy procedure, item 3b**.**

Finally**,** since the Health Centre is not mandated for weekend and after-hours services, clients shall be informed that during weekday business hours, by the dispensing pharmacist on site at SHS (See SHS After Hours Policy).

a. Client / Family Teaching: Clients learning needs as concerns their medications are assessed by SHS nursing personnel. Verbal and written medication safety-related information shall be provided to clients in easy-to-use language by SHS personnel prior to the initial dose of new medications and when the dosage is adjusted. Also, said is provided to clients /families by the Morley Pharmacy in easy-to-use language when clients are started on new medications. Subsequently, clients are provided with verbal reminders and related client/family teaching reinforced by SHS personnel using the information provided by the pharmacy. Subsequent information can be reinforced verbally and/or in written form if the client requests. Client/family medication self-management teaching shall include the twelve (12) following topics: 1) healthy lifestyle choices; 2) medication self-administration methods and schedules; 3) therapeutic and adverse effects of medications; 4) medication-medication and medication-food interactions; 5) safe handling, storage and disposal of medications; 6) warning against the use of outdates medications; 7) warning against the sharing of medications; 8) immediate first aid related to medications; 9) wearing of medic alert bracelets ; 10) who to contact for further questions,11) any other self-management strategies related to the client's particular situation as well as a client teach-back process for pertinent situations.

b. Documentation of Medication Self-Management**:** All medication self-management interventions, information and client-family teaching provided shall be documented in the clients' file by Authorized SHS Personnel. Said documentation can be in the form of an overall statement to the effect that the client/family is self-administering the medications. It should also include regular evaluations of client/family capacity to self-administer their medications as well as any client/family-specific teaching and supports provided by SHS personnel to assist them with this process.

c. Evaluating Client/Family Capacity to Ensure Safe Medication Self-Management: All clients shall be evaluated as to their capacity to safely self-manage their medications according to the following four (4) criteria: 1) ability to understand the process; 2) agreement and willingness to self-manage; 3) family willingness and support and 4) the inherent risk level of the medication.

d. Pre-loading of Medications: Pre-loading of medications for clients will be available pursuant to an assessment by the nurse and only in cases where the client is unable to self-load either due to visual, cognitive or physical deficit. If the client is deemed able to self-administer, the nurse will either pre-load the syringes (i.e. as in the case of insulin) or contact a retail pharmacy provider who will dispense pre-filled syringes, depending upon the medication.

7. **B12 INJECTIONS**: See SHS B12 Injection Policy

8. **COMPUTERISED PRESCRIBER ORDER ENTRY (CPOE):** Prescribers must order medications in the WOLF EMR unless this is physically impossible. The type of alerts used by the WOLF EMR include alerts for: medication interactions, drug allergies, and maximum doses for high alert medications.

   a. Overriding Alerts: When necessary, these CPOE alerts can be overrode manually by following the default prompt in WOLF. The Medication Safety Committee audits alerts bypassed by prescribers on a quarterly basis.

   b. Testing Alerts: Alerts are regularly activated at the time of medication reconciliation to make sure they are still working. Proactive testing is carried out quarterly by designated SHS personnel by the Medication Safety Committee.

9. **DEPO-PROVERA FOR CONTRACEPTION**: See SHS Policy: Depo-Provera for Contraception

10. **DELIVERY/TRANSPORTATION OF MEDICATIONS BY SHS PERSONNEL:** Generally, clients are responsible for procuring and transporting their own medications, with the two provisos below:

    a. **Home Care Clients**: SHS Home Care Program does deliver medications to active Home Care clients, if required (i.e. family not able).

    b. **TB Clients**: TB medications are taken by the client as per the SHS the Direct Observed Therapy procedure on page 36 of this policy. All such medications must have labels that include client's name and one other client identifier as well as the directions for use or blister packing from the pharmacy.

11. **DISCONTINUED /EXPIRED MEDICATIONS:** Discontinued, damaged, expired and/or medications recalled by the manufacturer shall be returned to pharmacy for disposal by clients/families. SHS personnel can also do this, as required, to reduce the risk of misuse and ensure the safety of clients. If necessary, expired, damaged, and/or contaminated medications shall be stored separately from medications in current use, pending removal/disposal.

12. **DISPENSING OF MEDICATIONS:** SHS does not dispense medications. In certain cases for diabetic case management purposes, the Nurse Practitioner may dispense samples of hypoglycemics as per the Canada

Diabetes Guidelines for Step Therapy Initiation. Otherwise, client's prescriptions are filled at the on-site Morley pharmacy or another pharmacy of the client's choice.

13. DISPOSING OF MEDICATIONS: All unused and expired medication must be disposed of at first possible opportunity in a manner that complies with personal and environmental safety. Expired, damaged, contaminated and/or unused medications from either the Health Centre or the community should be returned as soon as possible to the Morley Pharmacy where they can be disposed of appropriately. If required, expired, damaged, contaminated and/or unused medications needing refrigeration are stored, properly labelled, in a separate shelf in the vaccine refrigerator pending removal.

a. Any medications that are associated with sharp administration should be disposed of in the appropriate sharps disposal containers as provide by SHS using the procedures associated with sharps and biohazards disposal. See IPAC Policy.

b. An educational poster has been developed to educate the community regarding safe disposal of unused medications and sharps (See Appendix VII)

14. DOCUMENTING MEDICATIONS AND THEIR EFFECTS: See Also 'Prescribing Medications', p.33.

a. Documenting by SHS Employees & Contracted Personnel: Medications administered by physicians, Nurse Practitioners and SHS personnel shall be documented in the EMR (i.e. WOLF or CARE) as soon as possible after administration to avoid errors. This documentation shall include: the date, time, dose, method, client teaching provided, the therapeutic effects of the medication on the client's progress towards treatment goals, information about a delayed or missed dose (if applicable) and any pertinent follow-up instructions or information. Adverse drug reactions shall also be clearly documented in the EMR as well as on the SHS Incident Reporting and Analysis Report Form. See also specifics on Direct Observed Therapy (DOT) documentation for TB management on page x.

b. Medication Profile: For Primary Care clients, a medication profile is documented for each client in the WOLF EMR by the SHS physician or Nurse Practitioner at the time of the first visit or consultation and adjusted thereafter as medications change (See Section 24: Medication Reconciliation). For Home Care clients, this profile is created by the nurse and can be found in the CARE EHR. The BPMH is completed by the Home Care Nurse in the EMR Care using Netcare. It is validated with the client/family and any discrepancies resolved. If the client is treated by an outside physician/Nurse Practitioner, SHS Medical Professionals can access medication information on Alberta Netcare. SHS personnel are reminded to check with 2 sources (i.e. WOLF or CARE & Netcare) and validate the list with the client/family.

c. Medication Self-Administration by Clients and Families' (See Also 'Assisting Clients/families with Medication Self/management, p.17). In cases where the client requires professional observation of

self-administered medications (i.e. new clients learning to self-inject, clients-at-risk for medication error if self-administering such as those with visual handicaps etc.), this observation shall be documented only when the health care professional or Community Health Representative has observed client doing self-administering. See specifics on Direct Observed Therapy (DOT) for TB management on page 8.

15. DO-NOT-USE LIST: DANGEROUS ABBREVIATIONS, SYMBOLS AND DOSE DESIGNATIONS

a. All the abbreviations, symbols, and dose designations on the ISMP DO-NOT-USE list of Dangerous Abbreviations shall not be used in the organization (See link below). This includes manual, electronic, pre-printed or pharmacy-generated labels and forms (See Appendix V).
www.ismp-canada.org/download/ISMPCanadaListOfDangerousAbbreviations.pdf

b. The Do-Not-Use list is updated as needed and at least annually by the Medication Safety Committee.

c. The Do-Not-Use list shall be visible in each exam room and nursing area.

d. SHS personnel and physicians are oriented to the "Dangerous Abbreviations, Symbols and Dose Designations Do-Not-Use-List".

e. SHS personnel and physicians will be informed of any changes made to the DO-NOT-USE list through the SHS internal website and a member of the Medication Safety Committee shall replace the updated print-out copy of the "do not use list" to the exam rooms and nursing areas.

f. Compliance with the Do-Not-Use List is audited quarterly by the Medication Management Team and process changes implemented based on identified issues.

g. Note: Dosage requirement and route lists in the current Electronic Medical Record (EMR) contain some non-modifiable DNU items, therefore SHS staff and physicians are advised to be vigilant of their charting and use only the recommended abbreviations and dose designations. To ensure this, all personnel must set up their personal Work Desk User Preferences to ensure that any DNU abbreviations mistakenly documented are automatically corrected in the EMR. As concerns the prescribing fields, these contain DNU designations. Prescribers are advised to select the appropriate designation from the scroll-down list, thus avoiding DNUs.

16. EMERGENCY CART:

a. Location: The Emergency Cart is located in the clinic area in the Treatment Room.

b. Re-Stocking After Use: Any time that the Emergency Cart is used by any SHS personnel, it is re-stocked, re-sealed, dated, initialed and the updates reflected on the checklist. If it is noted that

supplies are depleted they shall replaced and a note left for the Nurse Manager for Community Health, Primary Care & Public Health on the white board in the Laboratory.

c. **Monthly Checks:** It is the responsibility of the Clinic Nurse on the first working day of each month to review all contents of the Emergency Cart (in Treatment Room) using the Monthly Emergency Cart Checklist, attached to the cart to ensure that contents remain complete and that emergency drugs in the locked compartment have not expired (See Appendix VI).

This also includes testing the emergency equipment located in/on the cart to ensure that batteries are charged and that the equipment is functional. The oxygen tank (on the side of the Emergency Cart) is checked for its capacity and replaced if less than 500 PSI. Notes: 1) Spare oxygen tanks are located in the Home Care Storage Shed outside the back of the Health Centre. 2) If using the last oxygen tank, ensure that another tank is ordered

All monthly checklists are given to the Nurse Manager for Community Health, Primary Care & Public Health for monitoring.

17. EMERGENCY, URGENT AND ROUTINE STOCK MEDICATIONS:

a. **Stock Medications** are located In the Emergency Cart located in the Treatment Room of the Clinic area in the Stoney Health Centre proper.

- ASA tablets (**325MG** Entero-soluble)
- Asaphen chew tabs (**80mg**)
- Allernix Caplets (**25mg** Diphenhydramine HCL)
- Diphenhydramine (Benadryl) injectable (**50mg/ml**)
- Diphenhydramine (Children's Benadryl) (**6.25/5ml**)
- Diazepam injectable (**5mg/ml**)
- Dimenhydrinate (Gravol) injectable (**50mg/ml**)
- Epinephrine injectable (**1:1000**)
- GlucaGen Hypokit **x 1**
- Glucose tablets **x 5**
- Naloxone vials **(0.4mg/ml) 1 ml vials x 10**
- Nitro Spray (**0.4mg/dose** sublingual spray)
- Tylenol Children's Liquid (**160mg/5ml**)
- Tylenol Children's Meltaways (**160mg/tab**)
- Ventolin nebules 2 concentrations (**1.25mg/2.5ml** and **2.5mg/2.5ml**)
- Xylocaine 2% with Epinephrine 1:100,000 and 2% without

b. **Urgent/Emergent Medications not on Stock List**: Requests for adding medications to/deleting them from the SHS Stock Medication List are brought to the attention of the Medication Safety Committee.

c. **Client-Specific Medications**: The only client-specific medications kept on site are TB Medications, Insulins for pre-loading, pre-loaded Methotrexate and medications for Rheumatoid Arthritis. This is as a safety precaution to reduce the risk of error and/or misuse.

TB medications and Methotrexate are kept in a designated locked medication cupboard in the Home Care Staff Office. Medications for Rheumatoid Arthritis are in the Vaccine fridge. The TB Nurse oversees the TB Medications. Home Care oversees the Methotrexate and Rheumatoid Arthritis medications.

18. HIGH ALERT/HIGH RISK MEDICATIONS, PRODUCTS AND RELATED PRECAUTIONS:

(See also Appendix XV, *ISMP list*: *High-Alert Medications in Community/Ambulatory Healthcare ;* www.ismp.org/recommendations/high-alert-medications-community-ambulatory-list

a. Administration: Only physicians and authorized nursing personnel (RNs and LPNs) may administer medications. LPNs shall not administer high alert medication, with the exception of Methotrexate, providing they have the appropriate training. NB: For Methotrexate (non-oncologic) use in Home Care, see the Health Canada protocol for Handling and Administration of Methotrexate, June 2016 in Onehealth.com.can.

b. Availability: The following high-alert medications are limited in availability at Stoney Health Services and require specific precautions as noted below. See Institute for Safe Medication Practices (ISMP) link for the complete list : *https://www.ismp.org/communityrx/tools/highAlert-community.pdf*

- Gravol
- Immunosuppressants? (i.e. Actemra, Orencia, Humera, and Enbrel)
- Oral Hypoglycemics (i.e. Metformin) in Nurse Practitioner's Locked Office
- Methotrexate (pre-loaded, non-oncologic use only)
- Pediatric Liquid Medications (i.e. Benadryl Liquid)

c. Precautions:

i. All high alert and high-risk medications, whether administered at the Health Centre or in the Home, shall be *independently double-checked* by two health care professionals before medication administration (as recommended by Accreditation Canada). See Procedure 3c. of this document for more information on High Alert Medications.

ii. Close supervision by SHS physicians and personnel as to therapeutic and adverse effects, especially for high risk populations (i.e. Elderly, paediatrics, and neonates) as well as at care transition (i.e. Admission, transfer, and discharge).

iii. Special attention to client and family teaching.

iv. Regular monitoring by the Medication Safety Committee.

19. INFUSION PUMPS: Stoney Health Services does not initiate the use of infusion pumps for clients seen either in the Health Centre or at home.

a. Clinic Clients: Infusion pumps are not used at the Health Centre under any circumstances. Rarely however, clients seen in the clinic may require intravenous fluids and/or medication or assistance with their home parenteral therapy managed through HPTP. In these cases, a properly trained and authorized staff member shall initiate the I.V. therapy via a peripheral line (only). Appropriate procedures for sterile technique, double-checks and line marking shall be followed. Any client receiving I.V. therapy at the Health Centre shall be under close (i.e. every 15 minutes) observation until such time as the treatment is terminated and-or the client is transferred/discharged.

b. Home Care Clients: For clients requiring parental home therapy, the main referral source is the Home Parental Therapy Program (HPTP) at the Alberta Health Services Facility where the therapy is initiated. SHS assesses and arranges transport as required. For clients in the HPTP program, authorized SHS personnel shall reinforce training that the client has already received at the HPTP. SHS personnel will also assist with peripheral line and dressing changes, as required, according to the instructions provide by the HPTP.

20. INSULIN: SHS follows the Canadian Diabetic Guidelines, April 2018
http://guidelines.diabetes.ca/docs/CPG-quick-reference-guide-web-EN.pdf

21. INVESTIGATIONAL MEDICATIONS: Investigational medications are not approved for use within Stoney Health Services.

22. IRON INJECTIONS (see SHS Iron Injection Policy)

23. LOOK-ALIKE, SOUND-ALIKE MEDICATIONS: Look-alike/sound-alike medications (whether or not they require refrigeration) as well as different concentrations of the same medication and high-alert medications are stored separately to prevent confusion and promote safety. Posters to this effect are visible in each Clinic room.

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24. MEDICATION RECONCILIATION: Medication Reconciliation is an essential component of safe medication management by the systematic identification and resolution of any discrepancies in medication therapies . It is an interprofessional and interdependent process in which the client, family and /or alternative decision-maker play a critical role. (*Source: AHS Medication Reconciliation Policy PS-05, March 17,2016)*. At SHS, Medication Reconciliation must be systematically validated and/or re-validated, as the case may be, for certain clients in certain circumstances and at specified care transitions:

a. Primary Care Clients :
(adapted from https://www.ismp-canada.org/primarycaremedrecguide/MedRecProcess.htm)

i. who are new to the Clinic;
ii. who are older than 55 years of age;
iii. who are considered to be at high-risk (i.e. precarious/unstable health; have a debilitating disease; require complex care, at risk for safe medication management etc.);
iv. who have experienced an important change in their health status (i.e. significant change / new symptoms and/or medications, recent discharge from hospital, recently seen by a specialist etc.);
v. who are taking high-risk medications;
vi. who are taking five or more medications *(Source Masnoon N et al, BMC Geriatrics? 2017; 17:230.);*
vii. Are diagnosed with an ambulatory care sensitive condition (i.e**.** Grand mal status and other epileptic convulsions, chronic obstructive pulmonary diseases, asthma, heart failure and pulmonary edema, hypertension, angina and diabetes *(Source: Gov't of Alberta: AHS,2014 Admissions for Ambulatory Care Sensitive Conditions);*
viii. who are scheduled for an annual physical examination;
ix. who are being transferred (temporarily or permanently) or discharged to another service/organisation outside of SHS;
x. Every 12 months if none of the above conditions apply;

b. Home Care Clients: *(Adapted from : ISMP/SHN, March 2015 : Medication Reconciliation in the Home Care Setting – Getting started kit*

i. who are new to Home Care;
ii. who are older than 55 years of age;
iii. who are considered to be at high-risk (i.e. precarious/unstable health; have a debilitating disease; require complex care, at risk for safe medication management; family /caregiver in distress / crisis placement etc.);

iv. who have experienced an important change in their health status (i.e. significant change / new symptoms and/or medications, recent discharge from hospital, recently seen by a specialist etc.);

v. who are taking high-risk medications;

vi. who are taking five or more medications *(Source Masnoon N et al, BMC Geriatrics. 2017; 17:230);*

vii. who are scheduled for an annual physical examination;

viii. who are being transferred (temporarily or permanently) or discharged to another service/organisation outside SHS;

ix. Every 12 months if none of the above conditions apply.

c. Best Possible Medication History (BPMH): Medication Reconciliation starts with a complete and accurate BPMH carried out collected by the Health Professional using at least two sources of information (i.e. client/family interview, NetCare, medication packaging, most recent Medication Profile etc.); and, always with the involvement of the client, family and/or caregiver (as appropriate) using Netcare. (*Note: Due to the pattern of polypharmacy use in the community, the WOLF EMR typically only contains medication prescribed by SHS prescribers and, as such, is not necessarily the most compete resource*.) The BPMH must also include a comprehensive list of all medications the client is currently taking, including prescribed, OTC, and traditional/herbal supplements at the time of the collection of the BPMH.

i. If there are medication discrepancies, the team shall work with the client and the Authorized Prescriber to resolve them.

ii. For on-site Prescriber's, this includes communicating the medication discrepancies to the client and documenting actions taken to resolve them. In this case, the BPMH must be forwarded to the Prescriber to be reviewed so that prescribed medications can then be deliberately and systematically continued, discontinued or modified in the "Physician's orders" section for the EMR.

iii. An alternative to this, in cases where a client's primary Prescriber is outside of SHS, authorised SHS personnel shall carry out an internal medication reconciliation (i.e. 2 nurses, nurse-pharmacist, or nurse-external source (i.e. PADIS) and attach a scanned copy in the client's file. Any concerns shall be brought to the attention of the Prescriber (i.e. by fax, by phone message) as soon as possible, along with a request for the returned, signed BPMH form.

iv. The BPMH is then scanned into the Document section of the WOLF EMR.

d. Current Medication List: For both Clinic and Home Care clients, authorised Stoney Health Services personnel shall provide the client and the next care provider with an updated Current Medication List. The client shall also be encouraged to share the list with family members and all relevant care providers. At care transitions, the appropriate facility/professional shall also be provided with the Current Medication List.

e. Professional Responsibilities: All authorized SHS Health Care Professionals, Dispensing Pharmacists and Authorized Prescribers are responsible for performing medication reconciliation as well as for to remedying any discrepancies. With this in mind, all professionals carrying out Medication Reconciliation must:

i. Involve clients, families and/or alternative decision-makers, as the case may be.
ii. Use the BPMH to verify for discrepancies in medications at admissions, transfers or discharges (for applicable clients) as the case may be, and to take measures to rectify these discrepancies.
iii. Provide the client and the next care provider with an updated Current Medication List and encourage the client to share the list with family members and all relevant care providers.
iv. Provide a copy of the Current Medication List to the appropriate facility/professional at each care transition.

25. MEDICATION SAFETY COMMITTEE: The SHS Medical Director, the Manager of Community Health, Primary Care and Public Health Services, a pharmacist as well as representatives of Community Health, Home Care and Primary Care shall comprise the interdisciplinary Medication Safety Committee. The Medication Safety Committee shall meet at least three (3) times per year and shall be responsible for the oversight, monitoring, reporting and system improvements related to medication management at SHS. More specifically, the Medication Safety Committee:

a. Acts as a forum for discussing medication-related issues;

b. Provides advice on the safe and effective use of medications to SHS Leadership, personnel and prescribers;

c. Provides oversight for all aspects of the medication management process (i.e. prescription, selection, preparation, dispensing, administration, storage and disposal) with particular attention to:

- Changes to the Stock Medication List;
- Controlled substances and other medications at-risk for abuse/overuse;
- Do-Not-Use abbreviations and dose designations;

- Harm reduction practices related to use of opioids and other drugs having a known potential for misuse;
- High alert medications and products and high-alert medication-related situations;
- Incidents (adverse medication events);
- Implementation of new practices (i.e. Naloxone Take-Home Kits) ;
- Medication Reconciliation;
- Ensures CPOE Alert monitoring (i.e. Testing of alerts, alert by-pass trends etc.) and Prescriber 'fatigue' measures by service provider ;
- Pain management protocols.

d. Investigates, analyzes and carries out corrective actions (when required) related to near misses and adverse medication events (AME's).

e. Monitors and reviews current and new practices in management of medications in response to alerts/ recommendations/instruction from external sources (i.e. Institute for Safe Medication Practices etc.).

f. Conducts Medication Utilisation Reviews, as required.

g. Supports self-management by clients and training of SHS personnel and physicians

h. Provides regular reports to the Executive Director.

i. Updates this policy at least every three years or more often, as new information becomes available.

j. Ensures timely communications to key SHS personnel and prescribers of ongoing quality improvement issues and updates related to Medication Management.

26. METHOTREXATE OVERVIEW: Methotrexate is indicated for the treatment of non-chemotherapy indications such as, active rheumatoid arthritis, severe psoriasis, asthma, systemic lupus erythematosus, Crohn's disease, myositis, vasculitis and ectopic pregnancy. In lower doses and with appropriate monitoring, methotrexate is safe for use as a long-term treatment for non-chemotherapy indications such as rheumatoid arthritis, psoriasis and Crohn's disease. Methotrexate is identified by the Institute for Safe Medication Practices (ISMP) Canada as a high alert medication because it can result in significant harm to clients when used in error. The following specific precautions apply (in alphabetical order):

a. Administration Pattern: Methotrexate is never given daily for seven (7) consecutive days. Once a week is the most commonly prescribed dose, (at the same time, on the same day each week). Sometimes, a physician may prescribe divided doses (i.e. 2 to 3 times per week) depending upon the client's condition and response.

b. Client Self-Administration: Clients who self-administer must be informed of any change of manufacturer, as this may result in changes to the volume provided in the syringe, storage conditions, expiry date or appearance of the syringes. In addition, clients must also be informed of any potential change in administration technique according to manufacturer's guidelines and be appropriately retrained, if necessary. While on methotrexate clients should be advised on specific precautions.

c. Client-Specific Methotrexate: Client-specific methotrexate is ordered from and prepared by pharmacy providers. Whether in oral or injectable formats , methotrexate should only be available in its final dose and form to clients and personnel in community-based FNIHB healthcare programs;

d. Double-Check: A double-check process must be performed when administering methotrexate to avoid error. A competent client or caregiver may be the second person in completing the double-check process with an authorized healthcare personnel;

e. Initiation of Treatment: Methotrexate therapy is initiated only by a physician / Nurse Practitioner;

f. Monitoring: Methotrexate requires close monitoring and follow-up with clients to avoid toxicity.

g. Oral Tablets: Methotrexate oral tablets are not to be crushed or cut prior to administration;

h. Overdose: In cases of inadvertent overdosage of methotrexate, consult the Poison Control Centre **(1 800-332-1414)** for advice on client management.

i. Personal Protective Equipment (PPE): See also SHS Infection Prevention and Control Policy.

i. Whether methotrexate is administered in a home or community-based setting, PPE precautions apply. These includes: 1) good-quality, powder-free gloves, 7-9 mm thick made of latex, nitrile, polyurethane or neoprene; 2) disposable, moisture-resistant, long sleeved gowns with knit cuffs; 3) Eye Protection / Chemical Splash Goggles as well as eye wash facilities (e.g., sink with eye wash station or an eye wash bottle) and 4) disposal facemasks (i.e. N95 version) for protection. Note: In the Stoney Health center, the eyewash sink is located in the Treatment Room.

ii. All PPE must be handled as cytotoxic waste and be disposed of accordingly in hazardous waste containers

iii. PPE should never be worn outside the methotrexate administration area.

j. Precautions for Healthcare Personnel:

i. Healthcare Personnel with a history of allergies to methotrexate or cytotoxic drugs should not handle methotrexate. Open skin lesions should be covered at all times;

ii. Healthcare personnel who are or may be pregnant should not handle methotrexate. Also, those planning a pregnancy should inform their manager so that contact with this drug can be minimized. Having been informed of the potential risks, ultimately the final decision of individuals in relation to the handling and/or administering of methotrexate is a personal one, but one that should be well documented;

k. Pre-filled Syringes: Methotrexate in intact pre-filled syringes is not to be removed from the syringe or primed prior to administration;

l. Spill Kits: Anyone who handles hazardous medications must know where to access a spill kit and how to use it to safely clean up a spill, whether in the Health Center, the community or the home.

i. In the SHS Health Centre there are portable spill kits for home use and in the Treatment Room at the Health Center.

ii. In Home Settings, the Home Spill Kit should include: Normal saline, soap or cleanser for eye and skin exposures, 2 pairs of disposable gloves, several paper towels, 2 – 4 large Ziploc bags, a puncture-proof sharps container and clearly written instructions for cleaning up the spill.

iii. In Community-based Settings, SHS uses a commercial hazardous medication spill kit

**See also 'Handling and Administration for Non-Chemotherapy Indications. First Nations and Inuit Health Branch, Health Canada, July 16' for additional guidance.*

27. MONITORING MEDICATION MANAGEMENT: (See Medication Safety Committee and Indicators).

28. NARCOTICS AND OTHER CONTROLLED SUBSTANCES: Opioid Stewardship may be described as coordinated interventions designed to improve, monitor, and evaluate the use of opioids in order to support and protect human health (*ISMP Canada,2018). With this in mind, the global SHS strategy is to promote the proper use of prescription drugs as well as narcotics and other controlled substances while working to reduce drug abuse and addiction among our population. SHS Follows The 2017 Canadian Pain Control Guidelines for Opioids for Chronic Non-Cancer Pain *(nationalpaincentre.mcmaster.ca/opioid/)* to ensure that people who need narcotics and other controlled substances for appropriate medical use will continue to have access to these medications. SHS is committed to increasing the awareness of and accessibility to opioid overdose response and agonist strategies following Alberta Health Services protocols. With this in mind, we have implemented an across-the-board policy that substantially reinforces the restrictions on Narcotic and Benzodiazepine use at the Stoney Health Centre. The following procedures apply:

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Related Policies and Procedures: SHS Reporting, Analysis and Resolution of Safety Incidents Policy, SHS Oxygen Therapy, SHS IPAC Policy, SHS Depo Provera Policy; SHS B12 Injection Policy; SHS Iron Injection Policy; Health Canada, First Nations and Inuit Health Branch (2016) Guidelines for Handling & Administration of Methotrexate for Non-Chemotherapy Indications; SHS Medication Management Audit Tool

a. Compliance with SHS Opioid Management Procedures: All Prescribers (Physicians and Nurse Practitioners) must abide by SHS Medication Management policies regarding the prescribing and appropriate documentation required for drugs known to have a potential for misuse (i.e. benzodiazepines, Tylenol #1, 2, 3, 4, Percocet, Oxycontin, MS Contin, and other narcotic analgesics, as well as Mogadon, Ativan, Valium, Librium, Clonazepam, Gabapentin and other sedatives/hypnotics). **NB**: Termination of privileges at SHS may be a result of failure to comply.

b. If a narcotic or other controlled substance is prescribed after careful review by the Prescriber, it must only be for 72 hours. Prescribers must establish a contract with clients to the effect that they will not seek narcotics elsewhere.

c. **Naloxone Overdose Response Kits**: The opioid crisis in Alberta is a complex issue that requires a multifaceted approach including awareness, treatment, and harm reduction. The distribution of Overdose Response Kits is an effective harm reduction strategy that aims to reduce morbidity and mortality rates related to the opioid crisis. Any person using opioids or planning to use opioids with the potential for an overdose should receive a kit with a 0.4ml vials of Naloxone provided by Alberta Health Services. Pre-filled nasal spray Naloxone is available without prescription at the pharmacy through NIHB. *(Adapted from Alberta Health Services ; Registered Nurse or Registered Psychiatric Nurse Decision Support Tool for Prescribing Take Home Naloxone (THN) Kit, 20257 (2015-12) and AHA community Distribution of Naloxone Kits, HCS -209, Nov. 6,2017 and AHS Take Home Naloxone Clinical Decision Flow Sheet, 2016_1212_ http://www.albertahealthservices.ca/info/Page13663.aspx*

   i. Overdose Response Kit Training: Prior to the distribution of Overdose Response kits, authorized SHS Health care providers shall complete a required Take Home Naloxone Training Program. *https://myhealth.alberta.ca/alberta/pages/take-home-naloxone*.aspx

   ii. Access to Naloxone Kits: Naloxone Kits are provided to clients/community Members in the Clinic at the Stoney Health Centre by trained personnel only. This applies to for adults who present with overdose and/or who present with another complaint but are at risk for an overdose from any opioid (not just Fentanyl). It also applies to persons under the age of 18 if they are assessed and determined to be a Mature Minor. (See SHS Consent Policy)

   iii. Dispensing Naloxone Kits: A dispensing record must be filled out before the Naloxone Kit is provided to the person. (See link: *www.albertahealthservices.ca/frm-20263.docx)*". This record lists the number of Kits handed out, with clients' names and the number of reversals

   iv. Education for Clients: When distributing Overdose Response kits, SHS personnel shall provide education to persons at risk, their families, and friends, including but not limited to: 1) how to assess for signs of overdose; 2) the importance of calling 911; 3) how to perform rescue

breathing; 4) how to draw up the naloxone; 5) the dosing of naloxone; 7) how to administer an intramuscular injection; 7) how to assess the response of the patient to determine the need for additional doses while awaiting the arrival of Emergency Medical Services and 8) proper disposal of used needles and paraphernalia .

v. Documentation: Documentation of Naloxone Kit distribution shall include: 1) steps taken to distribute the Overdose Response Kit, 2) education provided and, where applicable, 3) additional assessment for other needs and referrals initiated.

d. **Opioid Agonist Treatment:** Initiation and maintenance of Suboxone is available for members of the Stoney community by prescription either by SHS physicians or Nurse Practitioners. Nursing personnel in the Harm Reduction Program are available to support community members in these initiation and maintenance processes. The goals are to support abstinence from or reduced use of intravenous opioids and other abusive substances as well as to reduce risk of overdose / death and to enhance general health and quality of life.

29. OXYGEN THERAPY: See standalone SHS Oxygen Therapy policy.

30. PAIN CONTROL: SHS prescribers follow the 2017 Canadian Guideline for Opioids for Chronic Non-Cancer Pain.

31. PRESCRIBING MEDICATIONS: See also 'Narcotics and Other Controlled Substances' in this document.

a. Prescribers: Only physicians and Nurse Practitioners can prescribe medications at SHS**.** Medication orders, re-orders, or re-assessments shall be completed upon admission, at end of service, transition to another level of care, or with a significant change in patient's health status**.** Allergies and adverse reactions shall be documented on the patient's health record and reviewed prior to ordering medications. Hand-written, fax, or computerized provider order entry (CPOE) prescriptions, such as through the WOLF EHR, orders are acceptable methods of ordering medications. *(Source: AHS, Medication Order Policy, PS-93, Feb. 2018).*

NB. As previously mentioned, Medication Reconciliation shall also be part of the prescribing process. (See Section 24). It is the responsibility of the Prescriber to ensure that the client's "current medication list" in WOLF EMR is updated and accurate in the client's file. The prescriber and nurse will work closely together to ensure that the medication reconciliation process is completed.

b. Email: Medication orders shall not be transmitted by email or via text.

c. Netcare: All Prescribers must utilize Netcare available at the Health Centre to obtain the following documentation before prescribing medications:

i. Diagnosis
ii. Previous investigations/work-up and care plan
iii. A current Netcare/medication review (less than one (1) month old) with comments on whether or not there are concerns regarding potential or actual substance abuse (e.g. multiple prescribers).
iv. All Prescribers will complete Netcare training and obtain their Netcare access within one week after beginning work at the Stoney Health Centre.

d. Documentation: Documenting prescribed medications shall always be done directly into the WOLF EMR by all Prescribers. SHS will only accept orders that are entered into the EMR. Required prescribing information includes: date, time, dose, method and any special administration or follow-up instructions. The function for prescribing medication in WOLF ("Add new medication" feature) shall be used and completed in full.

i. Hand-written Medication Orders: Hand-written medication orders shall not be crossed out or written over. When changing a medication order (e.g., changing the dose of a medication), the authorized prescriber shall provide a new medication order to clearly indicate the change required. (*Source AHS , Medication Orders Policy, PS-93, Feb.26, 2018).*

ii. PRN Medication Orders: All As-needed / As-required (PRN) orders shall follow general prescribing elements in the WOLF EMR (i.e. date, time, dose etc.). PRN medication orders shall indicate the specific time interval between doses (e.g., every 3 hours). When multiple PRN orders are required for the same indication, guidance for use should be provided where necessary (i.e. priority, sequence, and/or patient condition for use). PRN medication orders shall not include a range time interval for frequency of administration. *(Example: Do Not Use: morphine 4 mg every 3-4 hours PRN. Do use: morphine 4 mg every 3 hours PRN*.) Where clinically appropriate, PRN medication orders should include a dose limit/maximum within a specific period of time. Only one (1) dose shall be administered within the prescribed time interval. (Example*: acetaminophen 650 mg orally every 4 hours PRN to a maximum of 3000 mg per 24 hours*. (*Source AHS , Medication Orders Policy, PS-93, Feb.26, 2018)*

iii. Suspend Orders: Suspend (hold) medication orders should only be used when a specific timeframe, number of doses, or clinical parameter is indicated. *Source AHS , Medication Orders Policy, PS-93, Feb.26, 2018*

iv. Time Frame: The Prescriber must ensure that a time frame (Start and Stop date) is filled out for each prescribed medication in order for the patient's medication record to remain current and accurate.

e. **Prescribing Warfarin Therapy:** For clients requiring ongoing INR monitoring and Warfarin dose adjustment, the prescriber shall use the "INR Summary Tool" in the WOLF EMR and communicate to nursing staff via the "Anticoagulation Summary Sheet" found within this tool.

f. **Dangerous Abbreviations**: As noted on the ISMP DO-NOT-Use list (See Appendix V) and unclear directions (such as: "resume the same medication" or "take medications from home", etc.) shall be avoided at all times.

g. **Incomplete, Illegible, Unclear or Inappropriate Medication Orders**: Clarifying incomplete, illegible, unclear or inappropriate medication orders is done through contact with the Prescriber and *not just through double-checking the order in the pharmacy.* When there is no pharmacist available, a Registered Nurse shall contact the Prescriber to request written or verbal clarification before filling and/or administering the medication, as the case may be. A verbal order for clarification may also be used in this situation.

h. **Verbal and Telephone Orders:** See Section 45**.**

32. **REIMBURSEMENT FOR MEDICATIONS:** At SHS, a majority of clients are eligible for Non-Insured Health Benefits (NIHB). Financial reimbursement for medications does not occur through SHS. Clients are directed to access coverage for medication cost through their medical benefit program by contacting 1-800-232-7301.

33. **REPORTING MEDICATION-RELATED SAFETY INCIDENTS:**

a. **Internal Reporting**: All SHS personnel and physicians shall immediately notify the Manager of Community Health & Wellness, Public Health & Primary care of any medication-related safety incidents and complete the SHS Safety Incident Reporting and Analysis Form.

b. **External Reporting - Canada Vigilance Program**: SHS currently does not report adverse reactions to the Canada Vigilance Program with the exception of those related to immunisations.

34. **SAMPLE MEDICATIONS:** A limited number of sample medications are available for Diabetic clients for use within the clinical setting of the Stoney Health Centre. These are kept in a locked drawer of the Nurse Practitioners' office.

35. **SHARPS DISPOSAL:** All sharps must be disposed of in puncture – proof containers as per the SHS IPAC Policy.

36. **STANDING ORDERS AND CLINICAL PROTOCOLS:** According to CARNA (College and Association of Registered Nurses of Alberta) Medication Guidelines: "Standing orders should not be used as they are not client specific, do not specifically identify the conditions and circumstances that must be present before being implemented and are not best practice." (January 2014, p. 8). In light of this guideline, SHS does not authorize the use of

Standing orders for Medications, but we do follow the CARNA approval process for the development of site-specific clinical protocols, where these are required.

37. **STOCK MEDICATIONS:** Client safety is a priority in stock medication procurement and inventory management. At SHS, very few medications are kept on site (See Section 17: Emergency, Urgent and Routine Stock Medications.). For these, we ensure the availability appropriate to the clients' circumstances and at recognizable standards of quality.

    a. **Clinic Medications**: All medications in the Clinic area including the Emergency Cart are checked by the Clinic Nurses on a weekly basis to ensure their integrity and are replaced as necessary. There is a checklist for the Emergency Cart; see Appendix VI.

    b. **Cold Chain**: Vaccines and biologics are stored in the Well Baby Room in the in biological fridge to ensure the Cold Chain. Temperatures are monitored and recorded twice daily by Nursing personnel assigned to the Well Baby Clinic. This refrigerator does not have a back-up system in case of power outages. In cases where there is a suspected Cold Chain break SHS contacts Comm. Dis Managemmnt nurse manager in Edmonton for further direction.

    c. **Labels**: Pharmacy labels on stock medications are not covered, replaced, or removed to allow for proper identification of medication name, dose, and intended client.

    d. **Orders/Re-Orders**: All order/re-orders for stock medication shall be made to the Morley pharmacy by the Manager of Community Health, Primary Care and Public Health.

    e. **Shipments**: NB: Special precautions are taken for medications requiring a mandatory Cold Chain.

    f. **Storage***:* All medications available for use within the clinical settings of the Stoney Health Services Centre and its' satellite sites is stored in the designated manner laid out by the product's monograph. All medications will be locked/secured in designated locations: medication storage room, treatment room (s), refrigerator in Community Health room and the Home Care Office. Medication storage areas are regularly inspected by designated SHS staff and improvements made if needed. Home Care Clients are supported to keep medications safety and securely in the home as part of the overall Home Safety Assessment procedures using the SHS Home Safety Checklist.

38. **TUBERCULOSIS (TB) CHEMOTHERAPY:** All clients diagnosed with TB disease or LTBI are followed and monitored by the AHS TB Program with FNIHB Regional TB program as follows:

    a. **Case Management:** TB Case management in the community of Morley is done by SHS TB Nurse.

b. **Medication Supplies**: TB medication is supplied by Health Canada in Edmonton Alberta. The medication is individually blister packed with client's personal identifiers, prescription, lot number, expiry date, and DIN number. It is the responsibility of the SHS TB Nurse to confirm that prescriptions received from AHS TB Services for each client are identical to TB medication received from DDC for that client.

c. **Medication Storage**: TB medication for each client is stored at room temperature in a locked cupboard in the Home Care Department at the Health Center. If refrigeration is required, the vaccine fridge in the Well-Baby room is used.

d. **Directly Observed Therapy**: All clients receiving therapy either for TB disease or LTBI prophylaxis shall be asked to comply with the Directly Observed Therapy procedure carried out by trained individuals who have read and completed the Health Canada Directly Observed Therapy Manual 2012, or health professionals. The DOT binder is located in the Well-Baby room. The DOT compliance record must be signed by the individual who observed the TB chemotherapy being swallowed. See Appendix III for DOT compliance record ; see link *http://edmontonjournal.com/news/local-news/david-staples-edmonton-doctor-crusades-for-new-opioid-treatment/amp*.

The SHS TB Nurse is responsible for ensuring that the most current prescription is printed out stored with client's medications in the locked cupboard as well as in the DOT binder to ensure that the prescription can be verified with medication prior to the preparation and delivery of the TB chemotherapy

e. **Adverse Drug Reactions and Side Effects**: Adverse drug reactions and side effects are reported to SHS TB Nurse immediately and proper follow-up of client is completed by SHS TB Nurse. If TB Nurse if not available, call AHS TB Services for Clinical Development Nurse; phone number: 1-780-735-1424.

f. **Missed Doses**: If more than two doses are consecutively missed, report to SHS TB Nurse or AHS TB Services for Clinical Development Nurse; phone number: 1-780-735-1424.

39. **TRAINING AND ORIENTATION OF SHS PERSONNEL**: All authorized SHS personnel shall receive appropriate training upon orientation and in an ongoing basis as needed about their particular role in safe Medication Management. This must be in compliance with applicable legislation and within protection afforded by legislation. This shall be documented in the personnel files and shall include the seven (7) following elements (in alphabetical order):

a. Assisting clients with medications
b. Client teaching about medications and their role in their own safety
c. Medication-related safety issues (i.e. Near misses, high-alert, look-alike and do-not-use medications, unclear orders and verbal order double-checks, etc.)

d. Preventing, reporting and managing adverse drug events and error-prone situations
e. Reporting medication-related incidents
f. Safe and effective medication handling, administration and documentation
g. Special situations (i.e. vaccinations, infusion pumps for peripheral lines, cytotoxic medications)
h. Storage, inventory and disposal of medications
i. Training on new medication or medication-related equipment before it is used.

40. TRANSCRIBING MEDICATION ORDERS: The process of transcribing a medication order includes both the process of transferring a medication order to a suitable medication documentation record and the process of verifying that the medication order was transferred accurately to the medication documentation record. All transcribed medication orders (including verbal and telephonic orders; See Section 43 below) shall include the following *(Source AHS, Medication Orders Policy, PS-93, Feb.26, 2018):*

a. Date and time order written;
b. Client's name (first and last);
c. At least one (1) other client identifier per the SHS patient identification policy (e.g., date of birth, unique lifetime identifier, personal health number);
d. Weight of patient (for all weight-based dosing [e.g., pediatric, neonatal] using international system of units (si units) (e.g., kilograms [kg], grams [g]);
e. Name of the medication: the generic name is preferred; and formulation (if applicable) (e.g., carbamazepine-controlled release, morphine sulfate extended release);
f. Dose described in si units, if applicable; Note: for intermittent medication doses based on patient weight or body surface area, the dose should be calculated by the authorized prescriber and documented in the medication order;
g. Strength/concentration (if applicable);
h. Route of administration;
i. Time interval (frequency);
j. Total quantity (where required);
k. Indication for pro re nata (as-needed or as-required; PRN medication orders), when necessary to provide clear direction (e.g., when the medication may have multiple indications);
l. Indication for all medications (recommended);
m. Duration of the order (where required);
n. Number of refills authorized, and interval between each refill (where required);
o. Monitoring requirements (if applicable);
p. Prescriber's authentication (prescriber's name, designation and signature). Signature includes either an original, handwritten signature, or an electronically generated signature within an AHS computerized provider order entry (CPOE) system.

41. UNIDOSE PACKAGING: Unit dose, multi-dose, or compliance packaged oral medications are kept in the manufacturer's or pharmacy's packaging until they are administered. Pre-pouring medications is not an acceptable practice.

42. VERBAL AND TELEPHONE ORDERS: The conditions listed below apply to all SHS personnel authorised to management verbal and/or telephone orders**.** (See also 'Prescribing Medications', Section 33 and 'Transcribing Medical Orders' Section 43).

a. Verbal and telephone orders are prone to error and may be provided to SHS personnel by Prescribers in *urgent/emergent situations only (Sources: AHS, Verbal and Telephonic Medication Orders, PS 93-22, Feb. 2018; Source AHS , Medication Orders Policy, PS-93, Feb.26, 2018).*

b. Only Qualified nursing personnel at SHS can accept verbal and telephone orders. Unregulated health care providers shall not accept verbal or telephonic medication orders.

c. Verbal (In-person) medication orders may only be accepted by a health care professional in an emergency situation or an urgent situation where delay in treatment would place a patient at risk of serious harm, and it is not feasible for the prescriber to document the medication order (e.g., during a sterile procedure). Verbal orders, including using the complete medication name and dose, shall then be repeated back to the prescriber for clarification by the nurse or pharmacist, validated by two (2) authorized SHS personnel (i.e. the receiving Registered Nurse and one other nurse or the pharmacist) and immediately entered into the WOLF EMR as telephone or verbal orders.

d. Verbal medication orders shall not be accepted for chemotherap**y** unless the order is to hold or discontinue the medication.

e. Telephonic (conveyed by telephone and/or radio) medication orders shall only be accepted by a health care professional where the authorized prescriber is not physically present to document the medication order and a delay in ordering, administering, or discontinuing the medication would compromise patient care and/or patient safety. Verbal medication orders provided on-site at the Health Center, shall be co-signed by the prescribing professional in the WOLF EMR at the soonest opportunity. A telephonic medication order shall not be accepted via voicemail.

f. Prior to accepting a verbal or telephonic medication orders, the authorized prescriber and the health care professional receiving the order shall verify the identity of the patient using two (2) patient identifiers. The complete order shall be read back to the authorized. Verbal and telephonic medication orders shall be documented on the health record in written format (e.g., hand-written or electronic) at the time of receipt of the order or as close to it as prudently possible.

g. Verbal orders provided by a Prescriber off-site shall be followed up with a faxed request to the Prescriber for written confirmation. All verbal and telephonic medication orders shall be verified by the authorized prescriber upon the next prescriber visit to the Health Center or by fax if the next visit is not planned or the time span is too lengthy.

5. INDICATORS:

Dimensions	Calculations (See SHS Medication Management Audit Tool)
1. Do-Not-Use (DNU) Abbreviation (Home Care, Clinic & Wellness Services)	Number of client files containing Dangerous Abbreviations x 100% per quarter (Target = 20 files) Total Number of client files audited per quarter
	Number of new staff with DNU training at orientation x 100% (Target= 100% new staff) Number of new staff hired
2. Medication Reconciliation (Home Care, Clinic and Community Wellness Services) add MM policy	Number of BPMHs on admission x 100% per quarter Number of admissions to each service
	Client files with completed Med. Rec. per quarter as Procedures 24a and b x 100% Number of files audited /quarter (Target = 20 files)
	Number of new clients educated to share complete med. list with circle of care x 100% per quarter Total number of admissions to each service
	Number of new staff with Med.Rec information/training at orientation Number of new staff x 100%
3. High Risk Medication (Home Care, Clinic and Wellness Services)	Number & identification client service areas found with high-alert medications *(NB : Use SHS Incident Reporting Template)*
	Number of staff having High-Risk Medications Training at Orientation x 100% per year Total new staff ***NB**: Tracked, analysed & reported in Quarterly Quality/Safety Report*
	Monthly reviews of completed Emergency Cart Checklists. ***NB**: Tracked monthly.*

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4. Medication-related near misses and Incidents (Home Care, Clinic & Wellness Services)	Number/type of medication related near misses & incidents reported / quarter x 100% Total number of incidents reported ***NB**: Tracked, analysed & reported in Quarterly Quality/Safety Report*

6. DEFINITIONS:

A. Adverse Drug Events (ADEs): ISMP Canada defines an adverse drug event as "an injury from a medicine or lack of an intended medicine. Includes adverse drug reactions and harm from medication incidents.

B. Adverse Drug Reaction: An unintended harmful response to a medication that occurs at doses normally used for prophylaxis, diagnosis or treatment.

C. Ambulatory Care Sensitive Conditions (ACSCs): Billings et al. (1993) defined Ambulatory Care Sensitive (ACS) Conditions as a set of 28 medical conditions/diagnoses "for which timely and effective outpatient care can help to reduce the risks of hospitalization by either preventing the onset of an illness or condition, controlling an acute episodic illness or condition, or managing a chronic disease or condition". In an access type of model, variation in hospitalization rates is explained by differences in access to care prior to hospitalization; these differences tend to be associated with socioeconomic status. In the Billings et al. (1993) model, a set of 28 medical conditions was developed, for which a group of physicians agreed hospital use might be reduced by timely and effective outpatient care prior to the need for hospitalization; hence, the terms "avoidable" or "preventable" hospital use (Billings et al., 1996). Appropriate prior ambulatory care could:

- prevent the onset of an illness or condition
- control an acute episodic illness or condition
- manage a chronic disease or condition

Note: AHS Indicators - Hospital Admissions for ACSCs: This indicator measures the age-standardized acute care hospitalization rate for conditions where appropriate ambulatory care prevents or reduces the need for admission to hospital, per 100,000 population under age 75 years. The ACSCs are: Grand mal status and

other epileptic convulsions, Chronic obstructive pulmonary diseases, Asthma, Heart failure and pulmonary edema, Hypertension, Angina and Diabetes (Source Gov't of Alberta May 2,2014)

D. **Antimicrobial Stewardship**: Antimicrobial stewardship is an activity that includes appropriate selection, dosing, route, and duration of antimicrobial therapy. The primary focus of an antimicrobial stewardship program is to optimize the use of antimicrobials to achieve the best patient outcomes, reduce the risk of infections, reduce or stabilize levels of antibiotic resistance, and promote patient safety. Effective antimicrobial stewardship in combination with a comprehensive infection control program has been shown to limit the emergence and transmission of antimicrobial-resistant bacteria. Studies also indicate that antimicrobial stewardship programs are cost-effective, and provide savings through reduced drug costs and avoidance of microbial resistance.

E. **Best Possible Medication History:** A Best Possible Medication History (BPMH) is a history created using 1) a systematic process of interviewing the patient/family; and 2) a review of at least one other reliable source of information to obtain and verify all of a patient's medication use (prescribed and non-prescribed). Completed documentation includes drug name, dosage, route and frequency. The BPMH is more comprehensive than a routine primary medication history which is often a quick preliminary medication history which may not include multiple sources of information. The BPMH is a 'snapshot' of the patient's actual medication use, which may be different from what is contained in their records. This is why the patient involvement is vital.

F. **Canada Vigilance Program:** Although SHS does not currently report to the Canada Vigilance Program, the following information has been provided for future reference. The Canada Vigilance adverse reaction reporting form is the official venue for reporting suspected adverse drug reactions to marketed health products in Canada. Reporting adverse drug reactions helps Health Canada identify early signs of new, rare, or serious adverse drug reactions that were not captured in the small number of participants that were included in premarketing clinical trials. *(Adapted from Accreditation Canada, Qmentum Standards for surveys beginning after. Jan.1,2018).*

Health Canada releases medication alerts through the MedEffect Canada website. Organizations can check the website regularly for alerts and recall notices, or subscribe to receive alerts as they are released. Other organizations of interest that issue medication alerts include. Appropriate actions to take in response to alerts may include sharing information with teams, monitoring medications of interest, and making necessary process changes (e.g., removing the medications from storage).

- Incident reporting form
- Teams are informed about the value of, and their role in, reporting adverse drug reactions to Health Canada, specifically, unexpected or serious reactions to recently marketed medications.

- Teams are provided with information on how to detect and report adverse drug reactions to the Health Canada Vigilance Program.
- Appropriate actions are taken in response to alerts from Health Canada and other organizations regarding adverse drug reactions

G. Chemotherapy: The treatment of disease using chemical agents or drugs that are selectively toxic to the causative agent of the disease, such as a virus, bacterium, or other microorganism (*American Heritage® Dictionary of the English Language, Fifth Edition. 2011).*

H. CPOE: Computerized provider order entry (CPOE) refers to an application that allows health care providers to use a computer to directly enter medical orders electronically in inpatient and ambulatory settings, replacing the more traditional order methods of paper, verbal, telephone, and fax.

I. Dangerous Abbreviations, Symbols and Dose Designations: According to the ISMP, the abbreviations, symbols, and dose designations found in the table in Appendix V have been reported as being frequently misinterpreted and involved in harmful medication errors. This can also delay the start of therapy and waste time. As such, Dangerous Abbreviations should never be used when communicating medication-related information. In an effort to promote safe practices, the Institute for Safe Medication Practices (ISMP) and the U.S. Food and Drug Administration recommend that ISMP's list of error-prone abbreviations, symbols, and dose designations be considered whenever medical information is communicated (ISMP 2014 https://www.ismp.org/Tools/abbreviations/default.asp).

J. Emergency Situations: Emergency situation either within or outside the Stoney Health Centre include the following: Code Blue (respiratory/cardiac distress), continuous seizures, and any situation where resuscitation is required.

K. High-Alert Medications and Products (See Also Appendix XV): According to the ISMP, high-alert medications are considered to predispose clients to heightened risk of significant harm if they are used in error. Although mistakes may or may not be more common with these drugs, the consequences of an error are clearly more devastating to patients. High-risk client populations include the elderly, paediatrics, and neonates, among others. Care transition points including admission, transfer, and discharge are also High-risk medication-related situations. Implementing a comprehensive strategy for the management of high-alert medications is a valuable use of resources to enhance client safety, and to reduce the possibility of serious harm. High-alert medications include but are not limited to: antithrombotic agents; adrenergic agents; chemotherapy agents; concentrated electrolytes; insulin; narcotics (opioids); neuromuscular blocking agents; and sedation agents.

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Related Policies and Procedures: SHS Reporting, Analysis and Resolution of Safety Incidents Policy, SHS Oxygen Therapy, SHS IPAC Policy, SHS Depo Provera Policy; SHS B12 Injection Policy; SHS Iron Injection Policy; Health Canada, First Nations and Inuit Health Branch (2016) Guidelines for Handling & Administration of Methotrexate for Non-Chemotherapy Indications; SHS Medication Management Audit Tool

L. Independent Double-Check: An independent double-check is a verification process whereby a second health care provider conducts a verification of another health care provider's completed task. The *most critical aspect* is to maximize the independence of double-check by ensuring that the first health care provider does not communicate what he or she expects to the second health care provider to see, which would create bias and reduce the visibility of an error." (ISMP, Jan 2005).

M. Investigational Medication: A medication that is only approved for use in clinical trials under controlled conditions to determine its safety and effectiveness; it is not yet available in the Canadian market.

N. ISMP: The Institute for Safe Medication Practices is an independent national not-for-profit organization committed to the advancement of medication safety in all healthcare settings. ISMP Canada works collaboratively with the healthcare community, regulatory agencies and policy makers, provincial, national and international patient safety organizations, the pharmaceutical industry and the public to promote safe medication practices. ISMP Canada's mandate includes analyzing medication incidents, making recommendations for the prevention of harmful medication incidents, and facilitating quality improvement initiatives.

O. Medication Error: Any preventable error occurring during the prescribing, dispensing or administration of a medication that may cause or has the potential to cause harm to client.

P. Medication Management: The goal of medication management is to ensure the safe, accurate and consistent use of medications across the organization. To help achieve this objective, the organization establishes the procedures required at each step of the medication management process. This includes selecting and procuring medications; storing medications in the pharmacy and client service areas; prescribing, ordering, and transcribing medications; preparing, dispensing, and delivering medications; and administering medications and monitoring the effects of medications on clients.

Q. Medication Profile: The medication profile is a current list of medications and drug therapy records for each admission or each episode of service provided by SHS. Essential client information includes age; gender; weight and height; and allergies and past sensitivities. Essential information may also include diagnosis; co-morbidities or concurrently occurring conditions such as hypertension, diabetes, renal, or liver impairment; relevant laboratory values (inpatient or outpatient); and pregnancy and lactation status.

R. Medication Reconciliation: Medication Reconciliation aims to reduce medication errors and adverse drug events. It is a formal, systematic process in which health care professionals partner with clients (and/or their significant others) to collect and communicate accurate information about clients' medications, including over-the-counter medications, traditional medicines, vitamins and supplements. Medication reconciliation is a shared, client-centered responsibility which must involve the client and/or the family as

well as two of the following: the physician, pharmacist and-or nursing personnel. Medication Reconciliation occurs at transitions of care (admission, transfer, referral, discharge and change in health status) and the information is used to verify/correct the patient's medication orders upon. Medication reconciliation remains an interprofessional and interdependent approach, which requires teamwork.

S. Medication Utilization Reviews (MURs): Medication Utilization Reviews are authorized, structured, ongoing reviews of healthcare provider prescribing, pharmacist dispensing, and client use of medication. MURs are conducted by a multidisciplinary team. They involve a comprehensive review of client's prescription and medication data before, during, and after dispensing to ensure appropriate medication decision-making and positive client outcomes. MUR programs play a key role in helping health care systems understand, interpret, and improve the prescribing, administration, and use of medications as well as to identify trends in prescribing within groups of clients (i.e. those with asthma, diabetes, or high blood pressure etc.). The goal is to initiate action to improve drug therapy for both individual clients and specific populations of clients. MURs are also a means of improving the quality of client care, enhancing therapeutic outcomes, and reducing inappropriate pharmaceutical expenditures, thus reducing overall health care costs. MURs are classified into three categories:

a. Prospective - evaluation of a patient's therapy before medication is dispensed
b. Concurrent - ongoing monitoring of drug therapy during the course of treatment
c. Retrospective - review of therapy after the patient has received the medication

Issues Commonly Addressed by MURs include:

- Drug-disease interactions and-or contraindications
- Therapeutic interchange
- Generic substitution
- Incorrect drug dosage
- Inappropriate duration of drug treatment
- Drug-allergy interactions
- Clinical abuse/misuse
- Excessive doses
- High or low dosages
- Duplicate therapy
- Drug-disease
- Over and underutilization
- Drug-age precautions
- Drug-gender precautions
- Drug-pregnancy precautions

T. Near Miss: A medication error that could have resulted in client harm but was caught before reaching the client.

U. Self-Management: Clients/families need to be supported in order to obtain the education, skills and confidence required to effectively manage their health condition(s). Self-management is best seen as a fundamental transformation of the client-caregiver relationship into a collaborative partnership

(Bodenhemier et al, 2005, p 4). It is defined as "... the systematic provision of education and supportive interventions by health-care staff to increase patients' skills and confidence in managing their health problems, including regular assessment of progress and problems, goal setting, and problem-solving support." *(Adams et al., 2004, pg 57).* Briefly, self-management support is the assistance that care providers give clients with chronic disease in order to encourage daily decisions that improve health-related behaviours and related outcomes.

Self-management support involves both client education and collaborative decision making. Key goals include: 1) increasing the clients' confidence in his/her ability to change, rather than just to (more passively) comply with the advice of the caregivers and 2) helping clients become informed about their conditions so that they can take an active role in treatment (Bodenheimer, MacGregor & Sharifi, 2005). Most essential to successful self-management is a collaborative approach between care providers and clients/families working together to define problems, set priorities, establish goals, create treatment plans and solve problems *(Improving Chronic Illness Care, 2007; Adams et al., 2004).* Self-management support is the assistance caregivers give clients with chronic disease in order to help them better manage their health conditions.

V. TB Disease: Tuberculosis Disease occurs when a person has been infected with the Mycobacterium Tuberculosis (MTB), an aerobic organism through droplet transmission. When reproduction of this organism occurs it begins to cause damage to causes cavitation in the lungs and can form in other areas of the body, primary site usually lungs. This is characterized when a person exhibits symptoms, i.e unusual weight loss, cough greater than three (3) weeks, fever and night sweats. TB disease is diagnosed by a chest X-ray, and sputum collection positive for AFB Mycobacterium Tuberculosis.

W. Latent TB Infection (LTBI): This is when a person has been infected with the Mycobacterium Tuberculosis (MTB) through droplet transmission, the immune system activates and the organism is contained in the macrophages. The organism is considered dormant; the person has no symptoms and therefore is not contagious/infectious. Chemotherapy for LTBI is considered prophylaxis treatment. To determine if a person has been exposed to MTB, a Tuberculin skin test (TST) is done.

U. Directly Observed Therapy (DOT): This is a method of delivering TB medication in which a trained DOT worker or health professional watches the client swallow each dose of the medication. DOT has been shown to reduce the risk of drug resistance and to provide better cure. Directly Observed Therapy is the World Health Organization's standard for treatment of TB; in Alberta, First Nations and Inuit Health Branch has adopted it as the standard for delivery of all TB medications whether they are for treatment of TB disease or latent TB infection (*Health Canada, Directly Observed therapy manual 2012 pg 2).*

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8. RESPONSIBILITIES:

A. The Executive Director shall approve this policy.

B. The Medical Director, the Manager of Community Health & Wellness, Primary Care & Public Health and the Manager of Home & Community Care shall jointly ensure the application of this policy.

C. All authorized SHS Nursing Personnel and Consultants (Physicians, Nursing personnel etc.) shall comply with this policy**.**

9. REVISED BY:

- K. Nelson (Home Care Nurse), M. Evans (TB Nurse) and S. Khan (Nurse Practitioner)

10. APPROVALS:

STONEY HEALTH SERVICES POLICY AND PROCEDURES		MEDICATION MANAGEMENT	
Effective: March 2, 2015	**Policy No**.:	**Applies To**:	✓ Leadership & Operations ✓ Programs & Services ✓ Client, Family & Community
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A. Khan
Executive Director

Date

APPENDIX I: SHS PRESCRIPTION PAD SIGN-OUT SHEET

Prescriber	Date/Time Out	Date/Time Returned

APPENDIX II: SEVEN RIGHTS OF MEDICATION ADMINISTRATION

Safe and competent medication practice requires using the seven rights of medication administration.

The 'Rights' are:

1. Right medication
2. Right dose
3. Right client
4. Right route
5. Right time and frequency
6. Right documentation
7. Right reason

Source: College and Association of Registered Nurses of Alberta, Medication Guideline, January 2014, Pg 2.

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APPENDIX III: DIRECT OBSERVATION THERAPY (DOT) COMPLIANCE RECORD

https://www2.onehealth.ca/Portals/1/Uploaded%20Docs/038CH_DOT%20Client%20Checklist%20%20Record%20June%202018.pdf

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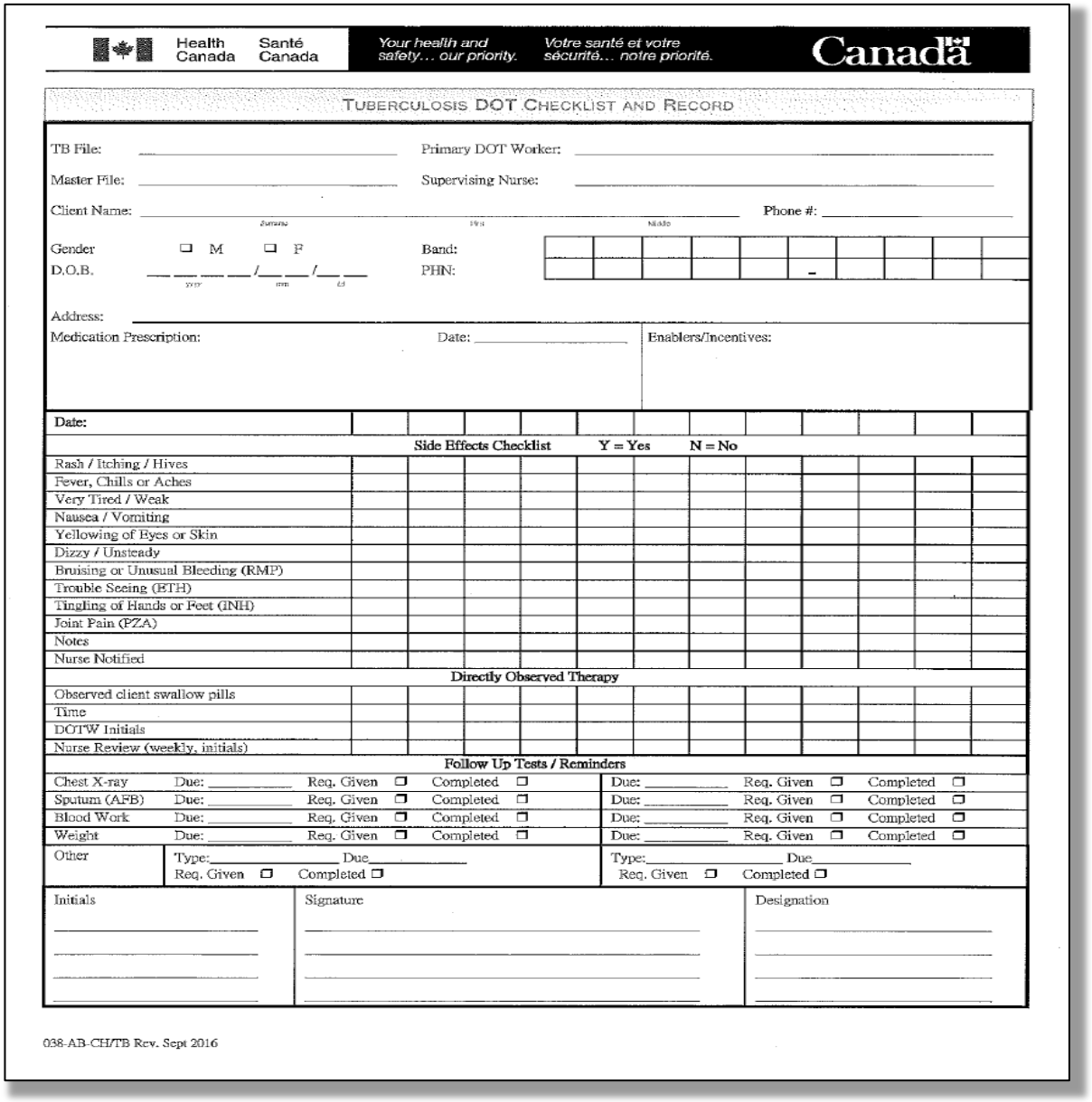

Health Canada / Santé Canada — *Your health and safety… our priority.* / *Votre santé et votre sécurité… notre priorité.* — Canada

TUBERCULOSIS DOT CHECKLIST AND RECORD

TB File: _____ Primary DOT Worker: _____

Master File: _____ Supervising Nurse: _____

Client Name: _____ Phone #: _____
(Surname / First / Middle)

Gender ❑ M ❑ F Band:

D.O.B. ___ ___ ___ / ___ ___ / ___ ___ (yyyy / mm / dd) PHN: _ _ _ _ _ _ _ _ _ _

Address: _____

Medication Prescription: Date: _____ Enablers/Incentives:

Date:													
Side Effects Checklist Y = Yes N = No													
Rash / Itching / Hives													
Fever, Chills or Aches													
Very Tired / Weak													
Nausea / Vomiting													
Yellowing of Eyes or Skin													
Dizzy / Unsteady													
Bruising or Unusual Bleeding (RMP)													
Trouble Seeing (ETH)													
Tingling of Hands or Feet (INH)													
Joint Pain (PZA)													
Notes													
Nurse Notified													
Directly Observed Therapy													
Observed client swallow pills													
Time													
DOTW Initials													
Nurse Review (weekly, initials)													

Follow Up Tests / Reminders

Chest X-ray	Due: _____	Req. Given ❑	Completed ❑	Due: _____	Req. Given ❑	Completed ❑
Sputum (AFB)	Due: _____	Req. Given ❑	Completed ❑	Due: _____	Req. Given ❑	Completed ❑
Blood Work	Due: _____	Req. Given ❑	Completed ❑	Due: _____	Req. Given ❑	Completed ❑
Weight	Due: _____	Req. Given ❑	Completed ❑	Due: _____	Req. Given ❑	Completed ❑
Other	Type: _____ Due _____ Req. Given ❑ Completed ❑			Type: _____ Due _____ Req. Given ❑ Completed ❑		

Initials	Signature	Designation

038-AB-CH/TB Rev. Sept 2016

APPENDIX IV: IV SITE SELECTION CRITERIA

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Alberta Health Services

NURSING

POLICY & PROCEDURE

SUBJECT/TITLE:	DATE ESTABLISHED:	DATE REVISED:	POLICY NUMBER:	PAGE:
INTRAVENOUS (I.V.) THERAPY PERIPHERAL ACCESS: INITIATION/MONITORING/DISCONTINUATION	1998 Oct	2010.01	I-3	12 of 12

Site	Advantages	Disadvantages
Dorsal venous network of hand	Most distal site, allowing successive sites in a proximal location; can be visualized and palpated easily; easily accessible	Should be stabilized on hand board; smaller than veins in forearm; diminished skin turgor and loss of subcutaneous tissue in geriatric patients/clients; excessive subcutaneous fat in infants; limited ability to use hand may present problems for patient/clients at home
Cephalic	Large vein; easy to stabilize; easily accessible for caregiver and patient/client; may be palpated above antecubital fossa	May be obscured by tendons controlling thumb; puncture sites directly in wrist and antecubital fossa can increase complications because of joint motion
Accessory cephalic	Medium to large vein(s); easy to stabilize; can be palpated	Valves at junction of cephalic may prohibit cannula advancement; length of vein may be too short for cannula; may not be located on children
Median	Medium vein; easy to stabilize; easily accessible for caregiver and patient/client	Puncture in wrist may be excessively painful because of close proximity of nerve; may be slightly more difficult to palpate and visualize
Basilic	Large vein; can be palpated easily; may be available after other sites have been exhausted	More difficult to access because of location: may be difficult for patient/client to access and observe site; puncture site directly in antecubital fossa may result in increased complications because of joint motion; cannot be palpated above antecubital fossa
Dorsal venous network on foot	Easily accessible	May not be easily palpated because of age or disease-related changes; higher incidence of complications related to impaired circulation; difficult to stabilize joint; greatly limits ability to walk
Medial and lateral marginal veins of foot	May be large; usually easy to palpate and visualize	Higher incidence of complications related to impaired circulation; difficult to stabilize joint; greatly limits ability to walk
Great and small saphenous	Large veins; usually easy to palpate and visualize	Higher incidence of complications related to impaired circulation; located close to perforating veins connecting to deep veins of the leg

APPENDIX V: DO NOT USE ABBREVIATIONS, SYMBOLS AND DOSE DESIGNATIONS

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www.ismp-canada.org/download/ISMPCanadaListOfDangerousAbbreviations.pdf

Do Not Use

Dangerous Abbreviations, Symbols and Dose Designations

The abbreviations, symbols, and dose designations found in this table have been reported as being frequently misinterpreted and involved in harmful medication errors. They should NEVER be used when communicating medication information.

Abbreviation	Intended Meaning	Problem	Correction
U	unit	Mistaken for "0" (zero), "4" (four), or cc.	Use "unit".
IU	international unit	Mistaken for "IV" (intravenous) or "10" (ten).	Use "unit".
Abbreviations for drug names		Misinterpreted because of similar abbreviations for multiple drugs; e.g., MS, MSO_4 (morphine sulphate), $MgSO_4$ (magnesium sulphate) may be confused for one another.	Do not abbreviate drug names.
QD QOD	Every day Every other day	QD and QOD have been mistaken for each other, or as 'qid'. The Q has also been misinterpreted as "2" (two).	Use "daily" and "every other day".
OD	Every day	Mistaken for "right eye" (OD = oculus dexter).	Use "daily".
OS, OD, OU	Left eye, right eye, both eyes	May be confused with one another.	Use "left eye", "right eye" or "both eyes".
D/C	Discharge	Interpreted as "discontinue whatever medications follow" (typically discharge medications).	Use "discharge".
cc	cubic centimetre	Mistaken for "u" (units).	Use "mL" or "millilitre".
µg	microgram	Mistaken for "mg" (milligram) resulting in one thousand-fold overdose.	Use "mcg".
Symbol	**Intended Meaning**	**Potential Problem**	**Correction**
@	at	Mistaken for "2" (two) or "5" (five).	Use "at".
> <	Greater than Less than	Mistaken for "7"(seven) or the letter "L". Confused with each other.	Use "greater than"/"more than" or "less than"/"lower than".
Dose Designation	**Intended Meaning**	**Potential Problem**	**Correction**
Trailing zero	*X*.0 mg	Decimal point is overlooked resulting in 10-fold dose error.	Never use a zero by itself after a decimal point. Use "*X* mg".
Lack of leading zero	.*X* mg	Decimal point is overlooked resulting in 10-fold dose error.	Always use a zero before a decimal point. Use "0.*X* mg".

ISMP Canada July 2006

Adapted from ISMP's List of *Error-Prone Abbreviations, Symbols, and Dose Designations 2006*

Report actual and potential medication errors to ISMP Canada via the web at https://www.ismp-canada.org/err_report.htm or by calling 1-866-54-ISMPC. ISMP Canada guarantees confidentiality of information received and respects the reporter's wishes as to the level of detail included in publications.

ismp CANADA
Institute for Safe Medication Practices Canada
Institut pour l'utilisation sécuritaire des médicaments du Canada

APPENDIX VI: EMERGENCY CART MONTHLY CHECKLIST

Effective: March 2, 2015	**Policy No.**:	**Applies To**:	✓ Leadership & Operations ✓ Programs & Services ✓ Client, Family & Community
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STONEY HEALTH SERVICES – EMERGENCY CART MONTHLY CHECKLIST

Monthly Check Date :						
Medication (*= 2 strengths)	**Stock**	**Stock Available**	**Expiry Date (year/month/day**	**Replaced (year/month/day**	**Signature**	**Initials**
ASA tablets (**325MG** Entero-soluble)						
Asaphen (**80mg** Chew tabs)						
Allernix Caplets (**25mg** Diphenhydramine HCL)						
Diazepam (**5mg/ml** injectable)						
Dimenhydrinate (Gravol) **50mg/ml** injectable						
Diphenhydramine (Benadryl) injectable (**50mg/ml**)						
Diphenhydramine (Children's Benadryl; **6.25/5ml**)						
Epinephrine injectable (**1:1000**)						
GlucaGen Hypokit **x 1**						
Glucose tablets **x 5**						
Naloxone injectable (**0.4mg/ml**)						
Nitro Spray (**0.4mg/dose** sublingual spray)						
*Tylenol Children's Liquid (**160mg/5ml**)						
*Tylenol Children's Meltaways (**160mg/tab**)						
*Ventolin nebules (**1.25mg/2.5ml**)						
*Ventolin nebules (**2.5mg/2.5ml**)						
Xylocaine 2% with Epinephrine 1:100,000						
Xylocaine 2% without Epinephrine and 2% without						

SHS Emergency Cart Monthly Checklist May 21, 2018 1

APPENDIX VII : INSULIN PEN START CHECKLIST

http://guidelines.diabetes.ca/bloodglucoselowering/insulinchecklist

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Insulin pen start checklist

Topic	Instruction Date & Initials	Comments
1. Cognitive Assessment		
2. Insulin Delivery		
• loading		
• appropriate mixing		
• priming shot		
• dialing up dose		
• delivery of insulin		
3. Insulin		
• type/action time		
• frequency/timing		
• injection sites		
• needle length		
• storage/expiry		
4. Return demonstration		
5. Hypoglycemia		
• signs and symptoms		
• causes/prevention		
• treatment		
• diabetes identification		
6. Glucose Checks		
• recommend a monitoring schedule		
7. Sharps Disposal		
8. Snacks		
9. Driving		
10. Instructions for oral medications		
11. Follow-up		
• dose adjustments		
• A1c every 3 months		

114030 08/12 Q5C **diabetes.ca** | 1-800-BANTING (226-8464)

DIABETES EDUCATOR SECTION / SECTION DES ÉDUCATEURS DU DIABÈTE

Canadian Diabetes Association

APPENDIX VIII: I.V. SITE SELECTION - ADVANTAGES AND DISADVANTAGES

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NURSING

POLICY & PROCEDURE

SUBJECT/TITLE:	DATE ESTABLISHED:	DATE REVISED:	POLICY NUMBER:	PAGE:
INTRAVENOUS (I.V.) THERAPY PERIPHERAL ACCESS: INITIATION/MONITORING/DISCONTINUATION	1998 Oct	2010.01	I-3	12 of 12

Site	Advantages	Disadvantages
Dorsal venous network of hand	Most distal site, allowing successive sites in a proximal location; can be visualized and palpated easily; easily accessible	Should be stabilized on hand board; smaller than veins in forearm; diminished skin turgor and loss of subcutaneous tissue in geriatric patients/clients; excessive subcutaneous fat in infants; limited ability to use hand may present problems for patient/clients at home
Cephalic	Large vein; easy to stabilize; easily accessible for caregiver and patient/client; may be palpated above antecubital fossa	May be obscured by tendons controlling thumb; puncture sites directly in wrist and antecubital fossa can increase complications because of joint motion
Accessory cephalic	Medium to large vein(s); easy to stabilize; can be palpated	Valves at junction of cephalic may prohibit cannula advancement; length of vein may be too short for cannula; may not be located on children
Median	Medium vein; easy to stabilize; easily accessible for caregiver and patient/client	Puncture in wrist may be excessively painful because of close proximity of nerve; may be slightly more difficult to palpate and visualize
Basilic	Large vein; can be palpated easily; may be available after other sites have been exhausted	More difficult to access because of location: may be difficult for patient/client to access and observe site; puncture site directly in antecubital fossa may result in increased complications because of joint motion; cannot be palpated above antecubital fossa
Dorsal venous network on foot	Easily accessible	May not be easily palpated because of age or disease-related changes; higher incidence of complications related to impaired circulation; difficult to stabilize joint; greatly limits ability to walk
Medial and lateral marginal veins of foot	May be large; usually easy to palpate and visualize	Higher incidence of complications related to impaired circulation; difficult to stabilize joint; greatly limits ability to walk
Great and small saphenous	Large veins; usually easy to palpate and visualize	Higher incidence of complications related to impaired circulation; located close to perforating veins connecting to deep veins of the leg

APPENDIX IX: AHS SOUTH ZONE INTRAVENOUS THERAPY (RATE CALCULATION)

Management of Intravenous Therapy

Calculating Flow Rates

Calculating flow rate requires the following information:

- Amount of fluid to be infused
- Duration of administration
- Drop factor of the IV tubing set being used

Flow Rate Formula:

Amount of solution in mls = Number of mls per hour
Duration of admin in hours

Example Order: Give 1000 mls NaCl over 8 hours

1000 mls = 125 mls per hour
8 hours

Drop per minute Formula:

Rate (ml/hr) X drops/ml = number of drops per minute
60 minutes

The number of drops per minute will depend on the administration set being used.
-mini drip (Buretrol) set - 60 drops/ml
-regular (Macrodrip) set - 10 drops/ml

Example:
125 mls per hour X 10 drops/ml = 20.83 (21) drops/min
60 minutes

You would run your IV rate at 20 drops/minute to give 1000 mls of fluid in 8 hours

After calculating the required drip rate, hold your watch next to the drip chamber to allow simultaneous observation of the time and drops. Adjust the flow rate until you have the correct amount of drops falling in a minute.

TKVO Rates

The standard rates of "to keep vein open" (TKVO) flow for patients are as follows

Adult – 30 mL per hour
Child – 10 mL per hour
Infant – 5 mL per hour
Neonate – 2 mL per hour

APPENDIX X: LOCALIZED AND SYSTEMIC COMPLICATIONS OF INTERSTITIAL I.V.s

(Alberta Health Services, South Zone-West: IV Therapy Learning Modules, May 2014)

Localized Complications

Infiltration / Extravasation

Definition: The inadvertent administration of a nonvesicant/vesicant medication or solution into the surrounding tissues.

Signs and Symptoms: Pain, burning, itching, swelling, blanching at insertion site, inability to palpate the tip of the IV catheter, cool skin, wet site, continued infusion, even when manually occluded.

Treatment: Discontinue the IV, elevate the limb, and apply warm moist compresses prn. If an irritant or vesicant infiltrates, check with site policies for follow-up procedures.

Note: Do not lower the IV container to check for infiltration; this action may dislodge blood clots that have formed at the site.

Phlebitis

Definition: Inflammation of the vein caused by trauma or chemical irritation.

Signs and Symptoms: Warmth, tenderness or pain at IV site, redness, streaking along vein, palpable cord-like vein, area of hardness, edema (with thrombophlebitis).

Treatment: Discontinue IV; apply warm moist compresses to site as necessary.

Infection

Definition: Invasion of the insertion site by bacteria.

Signs and Symptoms: Generalized redness and heat to the IV site, may involve redness progressing up the arm, purulent drainage may be present, fever.

Treatment: Discontinue the IV; notify the physician, antibiotics and a swab of any drainage may be required. Monitor the site and patient closely for spread of infection and signs of systemic infection such as fever and general malaise. If restarting IV, do so in the other arm.

Hematoma

Definition: Infusion of blood into subcutaneous spaces.

Signs and Symptoms: Discoloration, swelling, tenderness.

Treatment: Remove IV, rest affected limb, apply pressure over the IV site.

IV Therapy Learning Module 14

Systemic Complications

Septicemia

Definition: Systemic infection resulting from invasion of the bloodstream by pathogenic bacteria.

Symptoms: Chills, fever, headache, disorientation, signs of shock, nausea and or vomiting.

Treatment: Discontinue IV, culture site if drainage apparent, culture tip of catheter. Notify physician – may need blood cultures, antibiotics as required.

Catheter Embolism

Definition: Catheter fragment in the bloodstream.

Symptoms: Chest pain, signs of shock, shortness of breath, evidence of missing catheter fragment after IV removal.

Treatment: Apply tourniquet proximal to the site, consider the ABC's – provide care to support this. (e.g., oxygen) Notify the physician, Fluoroscopy may be required –catheters are radiopaque.

Pulmonary Embolus

Definition: The pulmonary artery or one of it's branches becomes blocked when a blood clot is dislodged into the circulation from another part of the body.

Symptoms: Chest pain, shortness of breath, haemoptysis, signs of shock.

Treatment: Remember ABC's, supportive therapy – may require a VQ scan.

Air Embolism

Definition: A significant amount of air introduced into the circulatory system causing blockage of the pulmonary capillaries.

Symptoms: Anxiety, chest pain, shortness of breath, signs of shock.

Treatment: Stop infusion, check for air in system, and turn patient to left side with head down to trap air in right atrium. Remember ABC's – administer oxygen. Notify physician.

Circulatory Overload

Definition: Excessive fluid in the alveoli of the lungs. Also known as pulmonary edema; prevalent among those who have received excessive IV fluids.

Symptoms: Dyspnea, cyanosis, increased work of breathing, tachycardia, frothy pink sputum, distended neck veins.

Treatment: Semi-fowlers position, remember ABC's – administer oxygen, notify physician, supportive therapy as required.

Inadvertent Arterial Cannulation

Definition: Accidental insertion of an IV catheter into an artery.

Symptoms: Bright red flashback, pulsation of blood in tubing, IV will not infuse.

Treatment: Remove catheter immediately, apply firm pressure for 5 minutes, and observe for continued bleeding.

STONEY HEALTH SERVICES POLICY AND PROCEDURES		MEDICATION MANAGEMENT	
Effective: March 2, 2015	**Policy No.**:	**Applies To**:	✓ Leadership & Operations ✓ Programs & Services ✓ Client, Family & Community
Review: March 2, 2018	**Sheet:** 60 of 64		
Revision: July 4 ,2018	**Approval:** ED		

Related Policies and Procedures: SHS Reporting, Analysis and Resolution of Safety Incidents Policy, SHS Oxygen Therapy, SHS IPAC Policy, SHS Depo Provera Policy; SHS B12 Injection Policy; SHS Iron Injection Policy; Health Canada, First Nations and Inuit Health Branch (2016) Guidelines for Handling & Administration of Methotrexate for Non-Chemotherapy Indications; SHS Medication Management Audit Tool

APPENDIX XI: AHS NALOXONE DISPENSING RECORD

www.albertahealthservices.ca/frm-20263.docx

Alberta Health Services

Naloxone Kit Dispensing Record (for Sites only)

Date *(yyyy-Mon-dd)*	Client Name / DOB *(yyyy-Mon-dd)*	Naloxone Lot # / Expiry Date	Dispenser's Name / Signature	Please Complete for Evaluation
				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☒ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other
				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☐ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other
				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☐ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other
				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☐ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other
				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☐ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other
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				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☐ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other
				☐ 1st Kit ☐ Replacement Kit, reason: ☐ Used ☐ Lost ☐ Confiscated ☐ Expired ☐ Stolen ☐ Other

This resource tool has been adopted for use with permission from the B.C. Harm Reduction Program, Towards the Heart.

20263 (2015-12)

APPENDIX XII: AHS TAKE HOME NALOXONE KIT TRAINING

https://myhealth.alberta.ca/alberta/pages/take-home-naloxone.aspx

Alberta Health Services

Take Home Naloxone Kit Training

OPIOIDS (downers), including Fentanyl, are nervous system depressants that result in decreased heart rate, drowsiness, slow/slurred speech, constricted pupils and a decreased breathing rate which can lead to an **OVERDOSE**

FACTORS THAT CAN INCREASE YOUR RISK OF OPIOID OVERDOSE

Mixing drugs	Tolerance
Quantity and potency	Individual health status
Other medications	Routes of administration

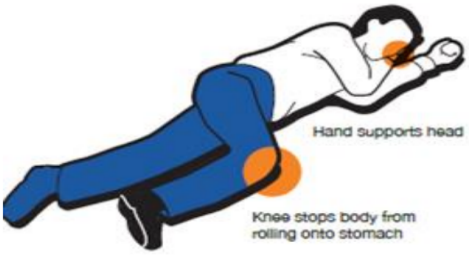
SYMPTOMS OF AN OPIOID OVERDOSE

- UNRESPONSIVE to stimulus
- Breathing is slow (less than 12 breaths/min), erratic or there are no breaths at all
- Body is very limp
- Fingernails and lips are blue
- Skin is cold and/or clammy
- Pupils are tiny
- Vomiting
- Choking or snore-like gurgling noises
- Heartbeat is slow, erratic or not there at all
- Seizure
- Loss of consciousness

OVERDOSE PREVENTION

- Do not use alone
- Use safer routes
- Do a test hit first
- Know the signs and symptoms of an OD
- Do not mix drugs
- Carry Naloxone
- Know where to find community support & resources

If you ever have to leave someone alone that you think might be overdosing, put them in the recovery position



www.albertahealthservices.ca 1

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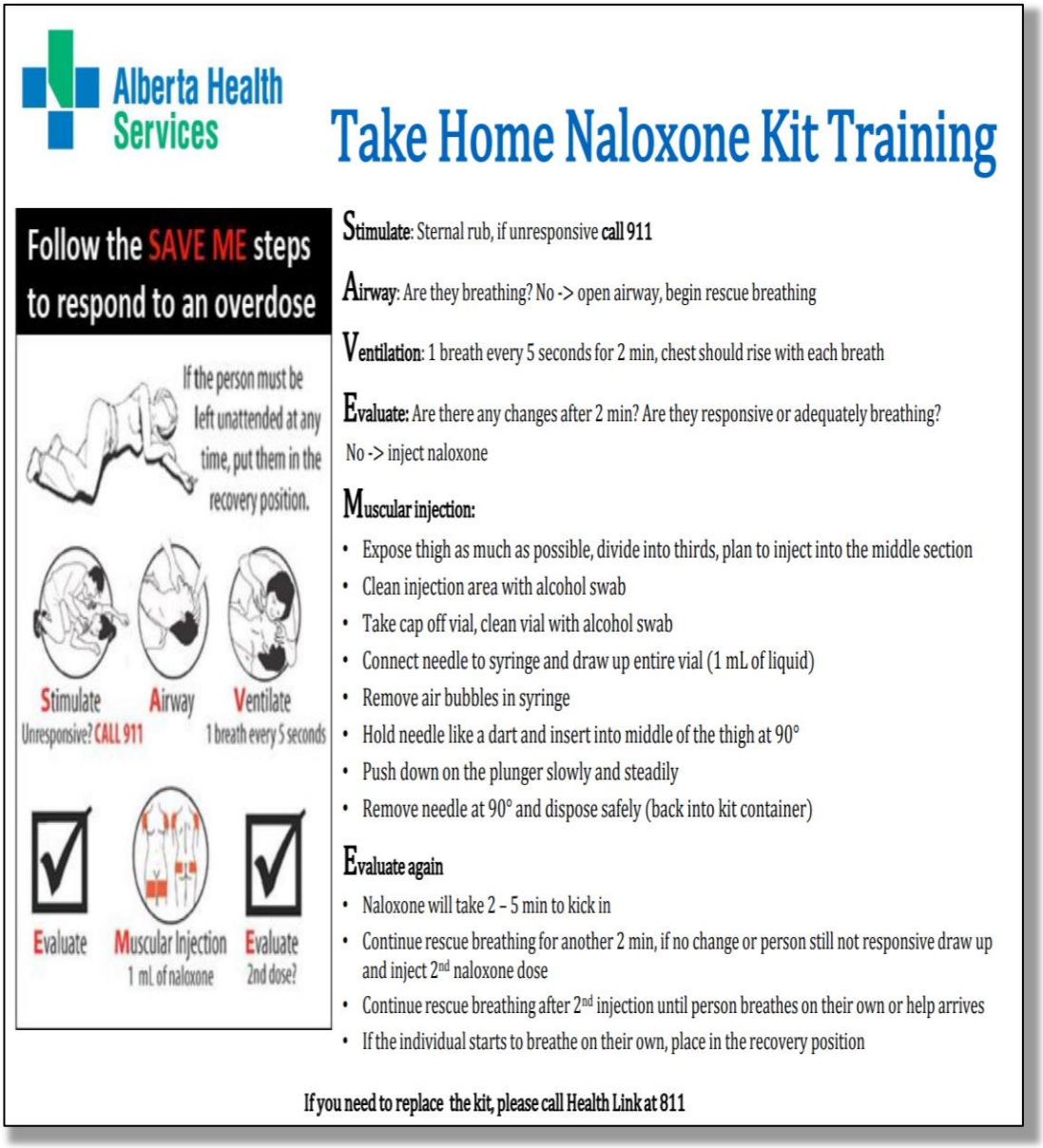

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APPENDIX XIII: ISMP HIGH-ALERT MEDICATIONS

www.ismp.org/recommendations/high-alert-medications-community-ambulatory-list

ISMP List of *High-Alert Medications* in Community/Ambulatory Healthcare

High-alert medications are drugs that bear a heightened risk of causing significant patient harm when they are used in error. Although mistakes may or may not be more common with these drugs, the consequences of an error are clearly more devastating to patients. We hope you will use this list to determine which medications require special safeguards to reduce the risk of errors and minimize harm.

This may include strategies like providing mandatory patient education; improving access to information about these drugs; using auxiliary labels and automated alerts; employing automated or independent double checks when necessary; and standardizing the prescribing, storage, dispensing, and administration of these products.

Classes/Categories of Medications	Specific Medications
antiretroviral agents (e.g., efavirenz, lami**VUD**ine, raltegravir, ritonavir, combination antiretroviral products)	car**BAM**azepine
chemotherapeutic agents, oral (excluding hormonal agents) (e.g., cyclophosphamide, mercaptopurine, temozolomide)	chloral hydrate liquid, for sedation of children
hypoglycemic agents, oral	heparin, including unfractionated and low molecular weight heparin
immunosuppressant agents (e.g., aza**THIO**prine, cyclo**SPORINE**, tacrolimus)	met**FORMIN**
insulin, all formulations	methotrexate, non-oncologic use
opioids, all formulations	midazolam liquid, for sedation of children
pediatric liquid medications that require measurement	propylthiouracil
pregnancy category X drugs (e.g., bosentan, **ISO**tretinoin)	warfarin

Background

Based on error reports submitted to the ISMP Medication Errors Reporting Program (ISMP MERP), reports of harmful errors in the literature, and input from practitioners and safety experts, ISMP created a list of potential high-alert medications. During June-August 2006, 463 practitioners responded to an ISMP survey designed to identify which medications were most frequently considered high-alert drugs by individuals and organizations. In 2008, the preliminary list and survey data as well as data about preventable adverse drug events from the ISMP MERP, the Pennsylvania Patient Safety Reporting System, the FDA MedWatch database, databases from participating pharmacies, public litigation data, literature review, and a small focus group of ambulatory care pharmacists and medication safety experts were evaluated as part of a research study funded by an Agency for Healthcare Research and Quality (AHRQ) grant. This list of drugs and drug categories reflects the collective thinking of all who provided input. This list was created as part of the AHRQ funded project "Using risk models to identify and prioritize outpatient high-alert medications" (Grant # 1P20HS017107-01).

APPENDIX XIV: SHS MEDICATION MANAGEMENT AUDIT TOOL

(Revised July 5,2018)

SHS Medication Management Audit tool - All Admissions and 30 Known Client Files (55 yrs. or over) / Quarter (Revised July 5, 2018)

		Client Profile (NB: * = Mandatory Med.Rec.)						Client Health Status (PC= All; HC=All except ACSC) (NB: * = Mandatory Med.Rec.)					Medication Profile NB: * = Mandatory Med.Rec. (MR)		Medication Documentation				Follow-up/Anlaysis & Recommendations for Improvemnt
#	DATE	Client File #	Age (MR mandatory if 55 or +)	M	F	New (MR. mandatory)	Known (Target = 20/Q.)	*Annual physical exam	*ACSC (Not for HC)	*Complex and/or high risk issues	*NB. Change in Health status	* Transfer outside SHS	Number of meds at time of audit (*MR mandatory if 5 meds or +)	Number of high-risk meds at time of audit (*MR mandatory if 1 or +)	BPMH on Admission	Current Med. Profile provided to patient	DNU Abbreviations found	High-alert med. double check documented	
1																			
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