Glossary

Aberrant drug-related behaviors: A set of concerning behaviors in which individuals make a directed and concerted effort to obtain an opioid medication for relief of undertreated pain (pseudoaddiction), satisfy an addiction or abuse disorder, or for drug diversion. Some of these behaviors include reporting an allergy to everything but a certain opioid; obtaining opioids from multiple prescribers, pharmacies, and emergency departments; frequent requests for early refills or replacement of lost/stolen/spilled opioids; providing inconsistent stories about pain; clock watching; or hoarding of analgesics.

Area under the curve (**AUC**): The amount of drug exposure or total drug concentration in plasma over a period of time. In addition to using the AUC in the setting of clinical research, it can be used to help guide the dosing of drugs such as **CARBO**platin.

Automatic stop order: Refers to automatic stoppage of certain medications within an organization-defined timeframe, if prescribers do not state the number of doses or days, after which the medications are discontinued and must be reordered if continuation is desired.

Automated system label: Label for patient-specific or unit-dose medications that is created or printed from automated devices such as pharmacy robotics or an ADC.

Barcode scanning technology: The use of optical machine-readable representation of data found in barcodes on medication packages and patient identification bands to verify that the correct patient is receiving the correct medication, the correct solution or ingredient is selected prior to compounding a preparation, or the correct medication is retrieved from or stocked in the correct storage location. The process involves the use of a barcode scanner, an electrical device that can read and output printed barcodes to a computer.

Basal infusion: A continuous infusion of an opioid to provide a constant level of analgesia, which may also be administered with bolus doses or patient-controlled analgesia (PCA).

Basal insulin: Insulin administered on a scheduled basis to maintain constant blood glucose levels during periods of fasting and between meals (e.g., long-acting insulin analogs, such as glargine or detemir).

Body surface area (BSA): The total surface of the human body based on height and weight that is used to calculate many chemotherapy drug doses. It is expressed as meters squared (m^2).

Clinical trial: Defined by the National Institutes of Health (NIH) as a research study in which one or more human subjects are prospectively assigned to one or more interventions to evaluate the effects of those interventions on health-related biomedical or behavioral outcomes.

Compounded sterile preparation: A preparation intended to be sterile that is created by combining, diluting, pooling, or otherwise altering a drug product or bulk drug substance. A product produced by reconstituting a conventionally manufactured product for an individual patient strictly in accordance with the directions contained in the approved labeling provided by the product manufacturer is not considered a compounded sterile preparation.

Computerized prescriber order entry: Refers to an inpatient and/or outpatient electronic or computer system into which an authorized prescriber enters medical orders.

Concentrated insulin: Any insulin with a concentration greater than 100 units/mL, including U-200, U-300, and U-500 insulin.

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Correctional insulin: Insulin administered to lower hyperglycemic glucose levels, not to cover nutritional intake (e.g., rapid-acting insulin analogs, such as glulisine, lispro, and aspart). Correctional doses may be combined with nutritional doses and administered simultaneously before a meal. Correctional doses should still be given to treat hyperglycemia when patients are not eating.

Cycle: A dose of chemotherapy that is repeated at regular intervals. Several chemotherapy cycles may make up a total treatment protocol. For example, the CHOP chemotherapy protocol may consist of one cycle given every 3 weeks, resulting in six cycles for the course of therapy.

Data monitoring software: Automated clinical decision support systems that "listen" to a wide variety of information sources (e.g., laboratory, pharmacy, radiology) across the organization, "watch" for specific problems that can be predefined by the organization, "link" this information to patients' electronic health records, and "notify" clinicians electronically of situations that may represent a risk to their patients *as soon as this information becomes available*.

Deep sedation: A drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

Dose error-reduction software (DERS): Refers to the integral computer software in smart infusion pumps intended to warn users of potential over- or underdelivery of a drug, electrolyte, or other fluid by checking programmed doses against preset limits specific to a drug (e.g., morphine) and to a clinical application (e.g., epidural administration) or location (e.g., neonatal intensive care unit, medical/surgical unit).

Dose stacking: The administration of another dose of the same medication or class of medication (e.g., pain medications) before the peak effect of the previous dose/medication has been reached, which could result in an excessive total drug effect over time. For example, peak analgesic effect with morphine may not be achieved for up to 20 minutes following intravenous administration. Dose stacking is possible if more morphine is given before the previous dose reaches its peak effect. However, morphine may be titrated safely in certain settings (e.g., immediate postoperative setting) every 5 minutes if smaller bolus doses are used.

General anesthesia: A drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

Gravimetrics: Refers to a measurement technique in which the amounts of each ingredient in a compounded product are determined by weighing the final product. The expected weight of the combined base solution and all additives or other ingredients is based on available information about the specific gravity of each of the intended components. This quality control step provides a quantitative measurement to verify accuracy when preparing compounded sterile products.

Hard stop: A forcing function in the computer system, intravenous infusion device, or other technology that will not allow the practitioner to proceed with the selection or entry.

High-risk patient: Patient with risk factors that increase the likelihood of an adverse outcome. For example, patients who are at high risk for opioid-induced respiratory depression may have the following risk factors:

- Age greater than 55 years
- Obesity
- Hepatic or renal impairment

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- Known or suspected sleep-disordered breathing (e.g., snoring, upper airway resistance syndrome, obstructive sleep apnea-hypopnea syndrome)
- Large neck circumference
- Anatomical maxilla or mandible abnormalities
- Prolonged surgery (greater than 2 hours)
- Thoracic or upper abdominal surgical incisions that may impair adequate ventilation
- Pulmonary or cardiac disease or dysfunction or major organ failure
- Smoker
- Concomitant administration of sedating agents
- High opioid dose requirements
- History of naloxone administration

Hospitalist/intensivist: A physician (not an intern or resident) who assumes responsibility for the observation and treatment of hospitalized patients and returns them to the care of their primary healthcare providers when they are discharged. An intensivist typically works in the intensive care unit.

Independent double check (or independently double checked): A procedure in which two individuals, preferably two licensed practitioners, separately check each component of the work process. An example would be one person calculating a medication dose for a specific patient and a second individual independently performing the same calculation (not just verifying the calculation) and matching the results.

Interfaced: A direct link between two information systems such that the information from one system is available to the user of the second system and integrated into the system in a way that supports clinical decision making (e.g., interfacing the laboratory and pharmacy computer systems would immediately provide corresponding laboratory data to the pharmacist while he/she is entering or verifying a specific medication order). This may or may not include a bi-directional interface of the two systems to allow communication in both directions.

Investigational drug (investigational): Defined by the National Institutes of Health (NIH) as a substance that has been tested in the laboratory and has been approved by the US Food and Drug Administration (FDA) for testing in people. Clinical trials test how well investigational drugs work and whether they are safe to use. An investigational drug may be approved by the FDA for use in one disease or condition but still be considered investigational in other diseases or conditions.

Machine-readable coding: Refers to technology in which a set of signs, letters, or radio waves are used to identify people and/or objects, including medications. Examples include barcode scanning technology (see defined term) or radio frequency identification (RFID), which involves wireless emission of radio waves that are transmitted and received to communicate identity and other information.

Maximum dose: The dose of a medication that represents the upper limit that is normally found in the literature and/or manufacturer recommendations. Maximum doses may vary according to age, weight, or diagnosis.

Medication safety officer: A clinical practitioner designated by an organization to serve as the authoritative leader in safe medication use for the purpose of reducing patient harm related to medication use. Other titles used to describe this role include medication safety leader, medication safety manager, medication safety coordinator, medication safety clinical specialist, medication safety pharmacist or nurse, and director of medication safety.

Nonanesthesiologist sedation practitioner: A licensed physician, dentist, or podiatrist who has not completed postgraduate training in anesthesiology but is specifically trained to personally administer or supervise the administration of moderate sedation.

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Non-parenteral: By the alimentary canal (enteral), topical, or transdermal routes of administration.

Nutritional (prandial) insulin: Insulin administered ideally 0-30 minutes before a meal to prevent the predicted postprandial rise in glucose levels (e.g., rapid-acting insulin analogs, such as glulisine, lispro, and aspart). Nutritional doses should be withheld when patients are NPO.

Opioid-naïve patient: Patients who do not meet the definition of opioid-tolerant.

Opioid-tolerant patient: Opioid tolerance is defined by the following markers: Patients receiving, for 1 week or longer, at least: 60 mg oral morphine/day; 25 mcg transdermal fenta**NYL**/hour; 30 mg oral oxy**CODONE**/day; 8 mg oral **HYDRO**morphone/day; 25 mg oral oxy**MOR**phone/day; 60 mg oral **HYDRO**codone/day; or an equianalgesic dose of another opioid, including heroin and/or non-prescribed opioids.

Parenteral: By some route of administration other than topical, transdermal, or through the alimentary canal (enteral) (e.g., subcutaneous, intramuscular, intravenous, or neuraxial injection).

Pharmacy and therapeutics committee: An interdisciplinary committee that convenes on a scheduled basis, or when necessary, to review the safety and efficacy, and establish approved uses and required monitoring of medications that will be available for use in the organization. The committee also sets policy and procedures, on behalf of the medical staff and administration, on the safety of the entire medication-use process.

Point-of-care: At or near to where the patient is located and receiving care—that is, at the time and place of patient care.

Proactive risk assessment: The process of identifying and systematically analyzing the risks and hazards embedded in the process and structure of care to prevent adverse events from occurring. Knowing where the risks and hazards are helps to inform the design, planning, and development of appropriate interventions that will eliminate or minimize risks and hazards before patient injuries occur.

Rescue: An intervention (usually provided urgently) used to reverse an adverse drug effect (e.g., to correct adverse physiologic consequences of a deeper-than-intended level of sedation), or to reverse a pathophysiologic condition (e.g., use of a hypertonic saline rescue to treat severe hypovolemia).

Safety culture: Refers to a safety-supportive model of shared accountability where healthcare institutions are accountable for the systems they design; for supporting the safe behavioral choices of patients, visitors, and staff; and for responding to staff behaviors in a fair and just manner. In turn, staff are accountable for the quality of their behavioral choices (human error is not a behavioral choice) and for reporting hazards, errors, and system vulnerabilities.

Simulation training: Hands-on training through virtual, live, or constructive experiences that are provided outside of day-to-day practice to teach various skills associated with a complex or hazardous task. Simulation training involves acting out or mimicking an actual or probable real-life condition, event, or situation to gain or sharpen skills associated with responding to these conditions, events, or situations.

Smart infusion pump/technology: An infusion pump with integral computer software (see dose error-reduction software) that is, at a minimum, capable of: 1) maintaining a drug library of standard drug concentrations, which when enabled, is used to support dose calculations and alert the user to incorrect orders, calculation errors, or programming errors that would result in significant over- and underdelivery of a drug, electrolyte, or other fluid; and 2) capturing administrative infusion data in a systematic, objective manner to support improvement in medication use. If the programmed dose is outside the preset limits, the pump alerts clinicians and can either require confirmation before beginning delivery (soft limit) or not allow delivery at all (hard limit).

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Syringe pullback method: A retrospective verification process used during drug preparation in which: 1) the drug or diluent is drawn into a syringe and injected into an infusion bag/container; 2) the syringe plunger is "drawn back" to demonstrate the volume that was added to the bag/container; and 3) the syringe is placed next to the source container(s) from which the drug or diluent was withdrawn for a second individual to verify the preparation. (This is not a recommended method to verify final drug preparation.)

Tall man lettering: Refers to a method of differentiating the appearance of similar drug names known to be confused with one another by using bolded, uppercase letters to draw attention to a small group of unique letter characters that are different in each of the drug names. A list of look-alike drug names with recommended tall man letters can be found at: www.ismp.org/Tools/tallmanletters.pdf.

Time-out: A formal process of active communication among all team members involved in a procedure by which, immediately prior to the procedure, healthcare providers pause to review a standardized checklist to confirm key aspects of the procedure, such as verification of the patient, the procedure to be performed, laterality, drugs to be administered, and a patient monitoring and rescue plan.

Triggers: Critical indicators (e.g., laboratory values, patient symptoms, use of antidotes for medications administered) that alert practitioners to the need for evaluation of a potential adverse event.