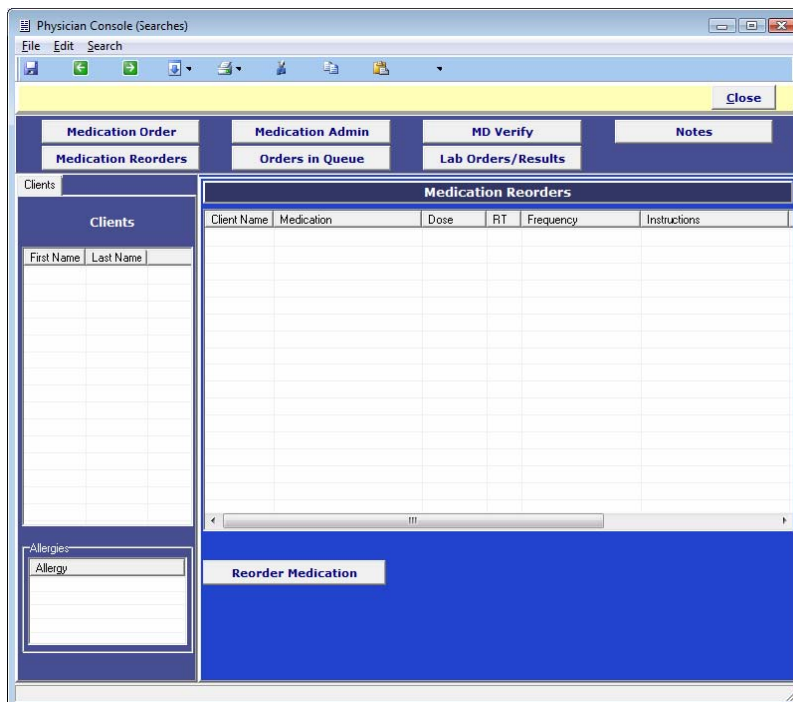


TIER® Workflow System Supports Medication Reconciliation

Medication Reconciliation

Medication reconciliation is the process of creating a complete and accurate list of all medications a client is taking (including key information such as drug name, dosage, frequency, and route) and comparing that list against the physician's admission, transfer, and/or discharge orders. The primary goal of medication reconciliation is to provide correct medications to the client at all service or care delivery transition points during treatment. TIER offers several forms as well as data compilation and reporting capacities to fully assist our clients with implementing the medication reconciliation process.



The screenshot displays a web-based interface titled "Physician Console (Searches)". The interface includes a menu bar with "File", "Edit", and "Search". Below the menu bar is a toolbar with various icons and a "Close" button. The main content area is divided into several sections:

- Medication Order**: A button for initiating medication orders.
- Medication Admin**: A button for managing medication administration.
- MD Verify**: A button for verifying medication orders.
- Notes**: A button for adding or viewing notes.
- Medication Reorders**: A button for reordering medications.
- Orders in Queue**: A button for viewing orders in the queue.
- Lab Orders/Results**: A button for viewing lab orders and results.

The "Medication Reorders" section is currently active, displaying a table with the following columns: Client Name, Medication, Dose, RT, Frequency, and Instructions. The table is currently empty. Below the table is a "Reorder Medication" button. To the left of the table is a "Clients" section with a table for listing clients, including columns for "First Name" and "Last Name". Below the "Clients" section is an "Allergies" section with a table for listing allergies, including a column for "Allergy".

Need for Medication Reconciliation

Medication errors are one of the leading causes of injury to patients, and chart reviews reveal that over half of all hospital medication errors occur at the interfaces of care. Experience from hundreds of organizations has shown that poor communication of medical information at transition points is responsible for as many as 50 percent of all medication errors in the hospital and up to 20 percent of adverse drug events (ADEs)."

The United States Pharmacopeia (USP) MEDMARX® reporting program (to capture errors involving medication reconciliation failures) received 2,022 reports of medication reconciliation errors. Of those reports, 66 percent



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occurred during the client's transition or transfer to another level of care, 22 percent occurred during the client's admission to the facility, and 12 percent occurred at the time of discharge.

Causes of medication reconciliation errors reported to MEDMARX included performance deficit (performance that falls short of expectations) (nearly 88 percent), transcription inaccurate/omitted (84 percent), documentation (83 percent), communication (82 percent), and workflow disruption (80 percent). USP also published several case examples of reconciliation failures during client admission, transfer, and discharge. One medical center revealed that poor communication of medical information at transition points was responsible for as many as 50% of all medication errors in the center and up to 20% of adverse drug events (ADEs). Another organization re The Joint Commission's sentinel event database includes more than 350 medication errors resulting in death or major injury. Of those, 63 percent related, at least in part, to breakdowns in communication, and approximately half of those would have been avoided through effective medication reconciliation. ported that clients had a 50% adherence rate to their medication regimen 48 to 72 hours after discharge. At 30 days after discharge, the adherence rate dropped to 30%.

Medication errors related to medication reconciliation typically occur at the "interfaces of care" when a client is admitted to, transferred within, or discharged from a health care facility. Furthermore, the home care department of one hospital discovered that 77 percent of all clients were discharged with inadequate medication instructions. Medication reconciliation systems and processes have successfully reduced medication errors in many health care organizations. Pharmacy technicians at one hospital reduced potential adverse drug events by 80 percent within three months by obtaining medication histories of clients scheduled for surgery.

Operational Requirements for Medication Reconciliation

The inherent goal is to prevent adverse drug events (ADEs) by implementing medication reconciliation at all transitions in care including admission, transfer, and discharge. The reconciliation process should be designed to avoid medication errors such as omissions, duplications, dosing errors, or drug interactions. The process should be completed at every service transition point in which new medications are ordered or existing orders are rewritten. Transitions include changes in setting, service, or practitioner.

An up-to-date and accurate medication list is essential to ensure safe prescribing in any setting. Providers, at each setting, should compare the list of the client's medications prior to the procedure to the medication orders after the procedure. The provider should carefully consider whether each medication should be continued, resumed, or discontinued and document this. If there is any change in drug, dosage, frequency, or route, make sure a process is in place to provide an updated medication list to the client and to the next provider, who should be notified of the changes or level of care.

Each time a client moves from one setting to another, clinicians should review previous medication orders alongside new orders and plans for care, and reconcile any differences.

The medication reconciliation process involves three steps:

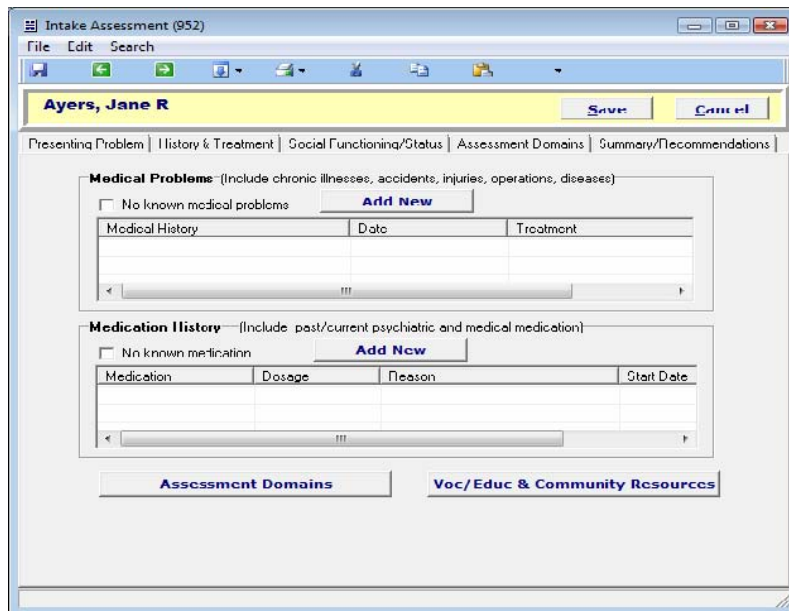
1. Verification (collect the medication history)
2. Clarification (ensure that the medications and doses are appropriate)
3. Reconciliation (document changes in the orders)

The process includes reconciling the medication list with new medication orders to ensure that no duplications, adverse interactions, incorrect dosages or omissions occur. The reconciliation process also should include these five steps:

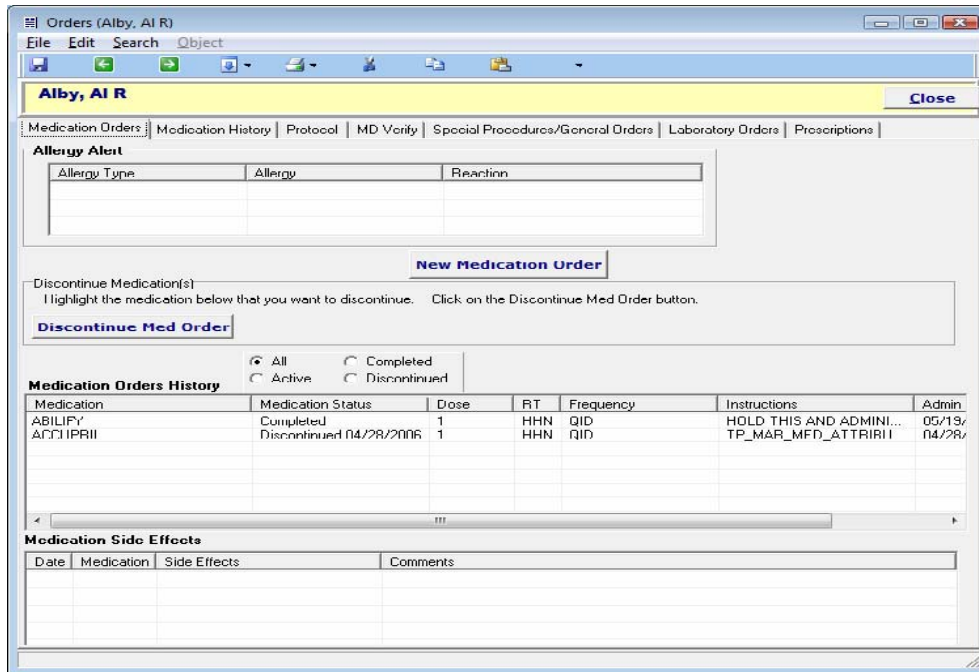
1. Develop a list of current medications
2. Develop a list of medications to be prescribed
3. Compare the medications on the two lists
4. Make clinical decisions based on the comparison
5. Communicate the new list to appropriate caregivers and to the client.

Admission:

A list of the medications the client is taking should be completed at time of admission. This information should be made available to the prescriber at the time that admission orders are written. If this isn't possible (for example, because of an urgent situation), the list of medications should be compared with the list of admission orders within 24 hours. This initial medication information is documented in the TIER Intake Assessment:

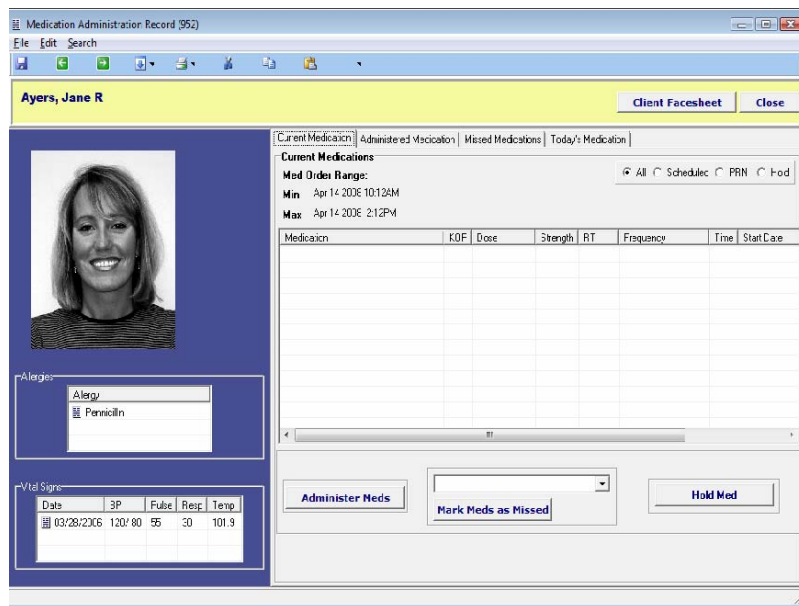


Upon completion of intake and admission, the TIER Medication Order form (below) can be



Transfer:

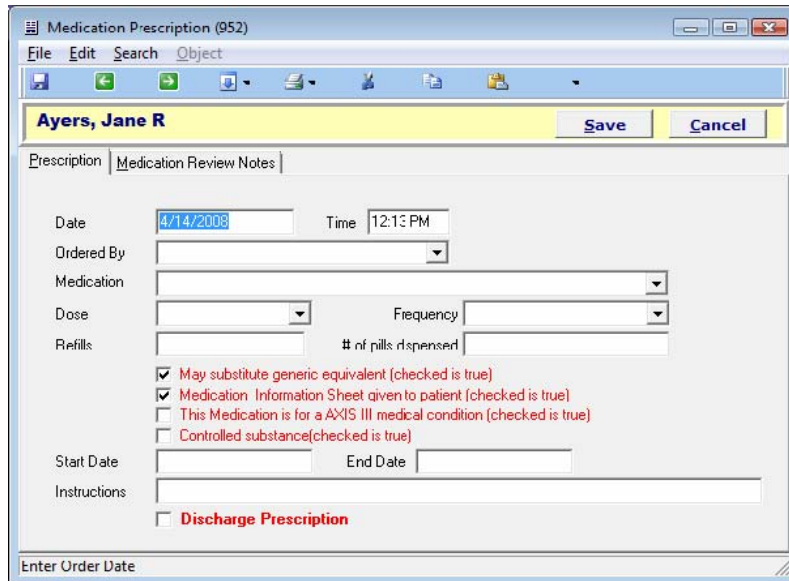
When transferring the client from one level of care to another, the provider should consult the client's medication list, current medication orders, and the transfer orders. The TIER MAR (below) provides a complete history of medications taken by the client.



Discharge:

The provider should review the client's medication list and current medication orders, and compare them with the discharge medication orders/prescriptions to ensure that medications are appropriately continued, resumed, or discontinued. The list should be shared with the client and the next provider or the care coordinator for that client.

One method of support is to utilize a TIER form such as an "MR Patient Summary" to compile MR data during the entire treatment process. The form is refreshed with each MR transaction culminating with the discharge list which can be given to the client. Another method to compile and provide this information is to create a Crystal Report that compiles and reconciles medication lists at each transition point. A report "button" can be inserted on the Program Admission log to trigger the medication report.



Joint Commission Requirements and Recommendations

One of the objectives of the JCAHO System Tracer for Medication management is to evaluate the medication reconciliation process during "hand-offs" from one level of care. Joint Commission surveyors target a client/client/resident receiving a specific medication. The review begins with the individual's clinical/medical record then follows the medication process throughout the system. The review focuses on compliance with requirements of the NPSG Goals for 2008 which include:

Goal 8(a): Accurately and completely reconcile medications across the continuum of care.

Implementation requirements for this goal include establishing a process for obtaining and documenting a complete list of the client's current medications upon the client's admission to the organization and with the involvement of the client. This process also includes a comparison of the medications the organization provides to those on the list.

Goal 8(b): A complete list of the client's medications is communicated to the next provider of service when a



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client is referred or transferred to another setting, service, practitioner, or level of care within or outside the organization. The complete list of medications is also provided to the client upon discharge.

Implementation requirements for this goal expect that, at a minimum, reconciliation must occur any time the organization requires that orders be rewritten and any time the client changes service, setting, provider or level of care and new medication orders are written. For transitions not involving new medications or rewriting of orders, the organization should determine whether reconciliation must occur.

Medications that need to be communicated to the next provider, organization, level, or setting of care include all medications that the client is to take following discharge or transfer, not just the prescription medications that are "ordered" at discharge. The list of "discharge medications" provided to the next provider or organization should already have been reconciled against the list of medications the client was receiving during treatment as well as against the original list of medications the client was taking prior to admission.

The Joint Commission also recommends that health care organizations consider:

- 1 Placing the medication list in a highly visible location in the client's chart and including dosage, drug schedules, immunizations, and allergies or drug intolerances on the list.
- 2 Creating a process for reconciling medications at all interfaces of care (admission, transfer, discharge) and determining reasonable time frames for reconciling medications. Clients, and responsible physicians, nurses and pharmacists should be involved in the medication reconciliation process.
- 3 At discharge, in addition to communicating an updated list to the next provider of care, provide the client with the complete list of medications that he or she will be taking after discharge, as well as instructions on how and how long to continue taking any newly prescribed medications. Encourage the client to carry the list and to share the list with any providers of care.

Organizations will better enable the reconciliation process by clearly defining their continuum(s) of care. Use of TIER's Continuum of Care model provides a solid framework for designing your organization's reconciliation process to cover all service settings including inpatient, emergency and urgent care, residential, partial, day, outpatient and, continuing care. This model enables staff to track admission, transfer, and discharge between programs and within levels of care.