



## Medical Orders and Medication Management in the TIER® Workflow System®

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### Medical Orders

Most behavioral health organizations utilize a variety of medical orders to treat conditions and needs of individuals served. The medical orders process and related forms in TIER® Workflow have been carefully designed to facilitate and document the organization's medical orders including general orders, laboratory orders, treatment protocols and special treatment procedures. Authorized staff can create various types of orders. The general face sheet for Orders is included below:

**Orders (Akers, William)** 9157

Medication Orders | Protocol | Pharmacy Summary | Discontinued Medication | Special Procedures / General Orders | Laboratory Orders | Prescriptions

**Allergy Alert**

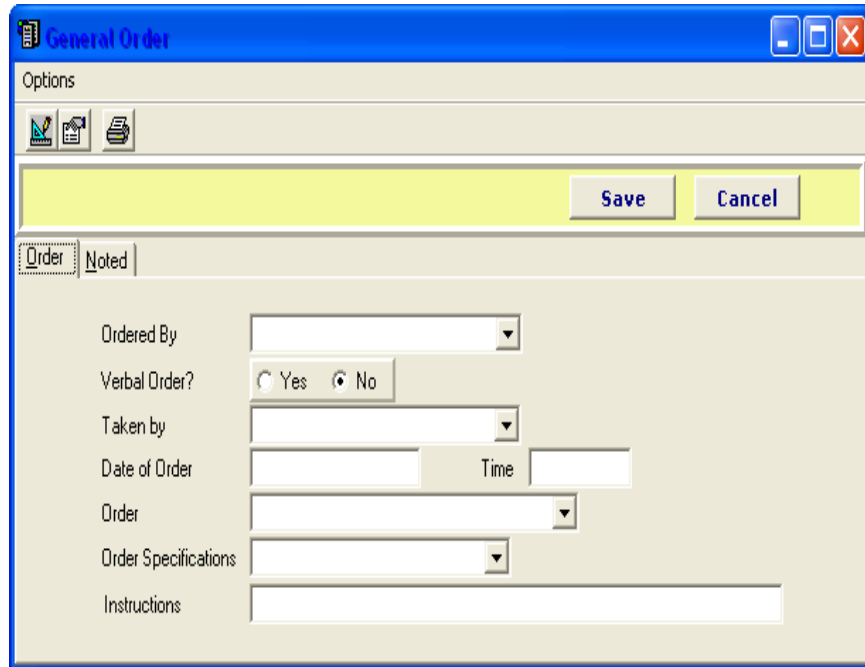
Allergy Type	Allergy	Reaction

**Medication Orders Summary (All Med Orders)**

Medication	D/C Date	Dose	RT	Frequency	Instructions	Start Date	En
Actifed tab		20 ml	PO	QD-8A		03/05/2004	03
Ativan 1mg		1 tablet	PO	Q4H-4a,8a,12n,4p,8...	X24Hr while awake	03/18/2004	03
Ativan 1mg		1 tablet	PO	Q8H-8a,4p,12mn	X24Hr while awake	03/20/2004	03
Ativan 2mg		1 tablet	PO	PRN Q4H	X96Hr if HR>100/min or D...	03/05/2004	03
Ativan 2mg		1 tablet	PO	Q6H-6a,12n,6p,12mn	X24Hr while awake	03/17/2004	03
Chlordiazepoxide (Librium...		1 capsule	PO	Q4H-4a,8a,12n,4p,8...	X24Hr/while awake	03/23/2004	03
Chlordiazepoxide (Librium...		1 capsule	PO	Q4H-4a,8a,12n,4p,8...	X24Hr/while awake	03/26/2004	03
Chlordiazepoxide (Librium...		1 capsule	PO	Q8H-8a,4p,12mn	X24Hr/while awake	03/28/2004	03
Chlordiazepoxide (Librium...		2 capsules	PO	PRN Q2H	Until Midnight	03/15/2004	03
Chlordiazepoxide (Librium...		2 capsules	PO	PRN Q4H	X96Hr if HR>100/min or D...	03/22/2004	03
Denakote 250mg		1 tablet	PO	BID	X3 Dose then		

The organization is encouraged to formalize its order management system based on national standards and practice guidelines as well as organization practice approaches. Procedures or guidelines for each type of order should be established to guide the order process. TIER® supports full automation of all orders used by the organization. In addition, several orders are included with TIER® Workflow.

The following is a general order form that can be used for orders such as admissions, special diets, behavioral management interventions, consultations, referrals etc.



General Order

Options

Save Cancel

Order Noted

Ordered By [dropdown]

Verbal Order?  Yes  No

Taken by [dropdown]

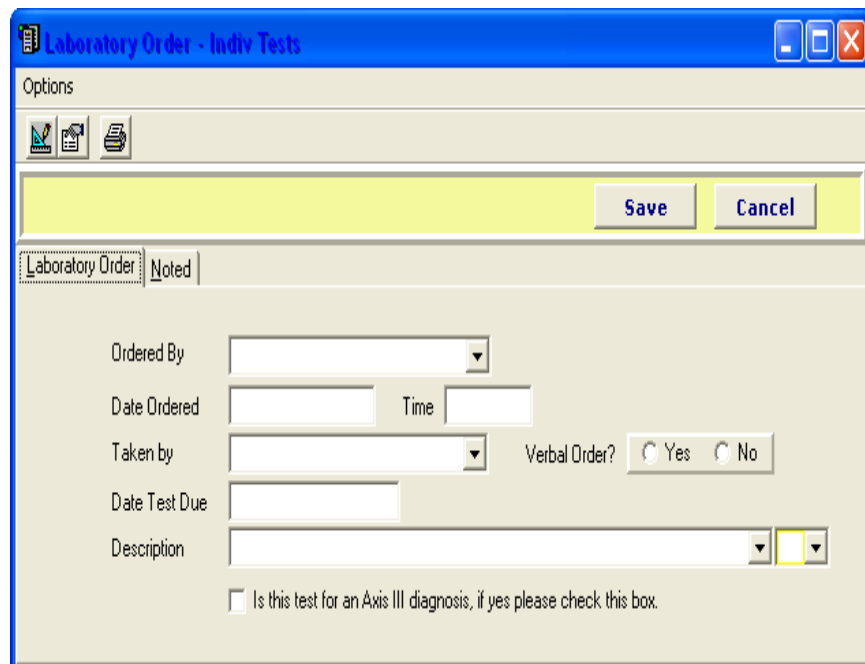
Date of Order [text] Time [text]

Order [dropdown]

Order Specifications [dropdown]

Instructions [text area]

Similarly, various laboratory orders can be generated such as routine tests or microbiology tests. An example of an order is below:



Laboratory Order - Indiv Tests

Options

Save Cancel

Laboratory Order Noted

Ordered By [dropdown]

Date Ordered [text] Time [text]

Taken by [dropdown] Verbal Order?  Yes  No

Date Test Due [text]

Description [dropdown]

Is this test for an Axis III diagnosis, if yes please check this box.

TIER<sup>®</sup> workflow also includes a complete order management system for use of special procedures such as restraint or seclusion. Each element of the special procedures process can be documented from initial orders to debriefings.

The behavioral advance directive, which is completed with the patient at time of admission, can be carried forward to the actual order if a procedure is implemented. In this manner, staff is reminded of the alternative interventions agreed upon at admission.

The medical order process also includes use of protocols. For example, substance abuse detoxification protocols are included. Similar protocols can be added for inpatient or residential psychiatric treatment. A copy of a detox protocol is below:

Seq	Medication	Dose	RT	Frequency	Instructions
<input type="checkbox"/> 1	Chlordiazepoxide (Librium) 25mg	2 capsules	PO	PRN Q2H	Until Midnight
<input type="checkbox"/> 2	Thiamine 100mg	1 ml.	IM	X1	On admit
<input type="checkbox"/> 3	Phenobarbital 130mg	1 ml.	IM	PRN Q1H	For severe agitation, sy
<input type="checkbox"/> 4	Prochlorperazine (Compazine) 5mg	1 ml.	IM	PRN TID	X72Hr for nausea/vomi
<input type="checkbox"/> 5	Chlordiazepoxide (Librium) 25mg	2 Capsules	PO	PRN Q4H	X96Hr if HR>100/min c
<input type="checkbox"/> 6	Chlordiazepoxide (Librium) 25mg	2 capsules	PO	Q4H-4a,8a,12n,4p,8p,12mn	X24Hr while awake
<input type="checkbox"/> 7	Chlordiazepoxide (Librium) 25mg	2 capsules	PO	Q6H-6a,12n,6p,12mn	X24Hr while awake
<input type="checkbox"/> 8	Chlordiazepoxide (Librium) 25mg	1 capsules	PO	Q4H-4a,8a,12n,4p,8p,12mn	X24Hr while awake
<input type="checkbox"/> 9	Chlordiazepoxide (Librium) 25mg	1 capsules	PO	Q6H-6a,12n,6p,12mn	X24Hr while awake
<input type="checkbox"/> 10	Chlordiazepoxide (Librium) 25mg	1 capsules	PO	Q8H-8a,4p,12mn	X24Hr while awake
<input type="checkbox"/> 11	Chlordiazepoxide (Librium) 25mg	1 capsules	PO	Q12H-8a,8p	X24Hr while awake

## **Medication Management**

A comprehensive medication management process is also included with TIER<sup>®</sup> Workflow. This process was designed to meet accreditation requirements, particularly JCAHO standards that encompass the following eight medication management functions:

- **Patient-Specific Information**
- **Selection and Procurement**
- **Medication Storage**
- **Ordering and Transcribing**
- **Preparing and Dispensing**
- **Administering**
- **Monitoring**
- **System Evaluation**

Organizations must formalize each of the above medication management functions that are applicable to their organization. Organizations must also develop comprehensive procedures or practice guidelines for each applicable function. A detailed workflow diagram of the organization's overall medication management process is also recommended.

### **Patient-Specific Information**

This function supports creation of a medication profile for each patient. This is important in that a significant cause of medication-related adverse events and medication errors is lack of key patient information that is easily accessible to staff involved in the medication management process. Therefore, this function is designed to provide staff with current, accurate information to facilitate a safe medication management process as well as continuity of treatment and creation of an accurate medication history and list of current medications for each patient.

To support this function, TIER<sup>®</sup> includes a medication profile summary that includes the following information on each patient:

- ✓ Age
- ✓ Sex
- ✓ Height and Weight
- ✓ Current medications
- ✓ Diagnoses
- ✓ Comorbidities
- ✓ Concurrent Conditions
- ✓ Relevant Laboratory Values
- ✓ Allergies
- ✓ Past Drug Sensitivities
- ✓ Other Information, as required or necessary

The profile can be viewed by authorized staff at any time. To facilitate access to this information, “medication profile buttons” are attached to various forms such as the medication order or prescription form.

### **Selection and Procurement**

This function supports selection, listing and procurement of medications based on criteria established by the organization. The formulary is fully modifiable by the organization and new medications or updated information can be easily customized.

TIER<sup>®</sup> includes a basic formulary (drug list) that includes the following information:

- ✓ Medication Brand Name
- ✓ Generic Brand Name
- ✓ Medication Class
- ✓ FDA Uses
- ✓ Non-FDA Uses
- ✓ Recommended Dose Ranges
- ✓ Precautions

Medications approved for inclusion in the formulary should be selected based on criteria such as indication for use, effectiveness, risks (including propensity for medication errors, adverse drug reactions, abuse potential, and sentinel events), and costs.

Each drug order or prescription activates the formulary for selection of the appropriate medication class. The authorized staff can then create an order or prescription. Orders or prescriptions that fall outside of the formulary requirements can be flagged for review and/or approval based on criteria established by the organization.

### **Medication Storage**

This function addresses proper and safe storage of medications including stock supplies and emergency medications. Only approved medications, in the formulary, should be stocked or stored (except for medications brought into the organization by patients). Medications must be stored in safe, secure and necessary conditions to ensure stability.

Also, medication storage areas should be inspected on a regular basis. TIER<sup>®</sup> provides a medication storage inspection form and related report to document inspections of all storage locations. This form follows:

Item	Yes	No	Specify
1. Location Secure	<input checked="" type="radio"/>	<input type="radio"/>	
2. All Medications accounted for	<input checked="" type="radio"/>	<input type="radio"/>	
3. Outdated Medications	<input checked="" type="radio"/>	<input type="radio"/>	
4. Appropriate Storage Temperature	<input type="radio"/>	<input checked="" type="radio"/>	
5. Authorized Sample Drugs (if applicable)	<input type="radio"/>	<input checked="" type="radio"/>	
6. Storage area clean	<input checked="" type="radio"/>	<input type="radio"/>	
7. Unauthorized medications present	<input checked="" type="radio"/>	<input type="radio"/>	
8. Medication inventory present	<input type="radio"/>	<input checked="" type="radio"/>	
9. Medication alerts present	<input checked="" type="radio"/>	<input type="radio"/>	
10. Medication antidote chart present	<input type="radio"/>	<input checked="" type="radio"/>	

## Ordering and Transcribing

This function of the medication management process facilitates that only medications needed to treat patient conditions are ordered or prescribed. Medications orders and prescriptions should be clearly written, transcribed and implemented. This process is supported with TIER<sup>®</sup>'s ordering and prescription forms.

Each medication order includes a "Noted" tab to ensure that the order is "noted" and reviewed by a pharmacist who then verifies the order for administration. Similarly, a "Medication Review" tab is attached to facilitate documentation of medication reviews by staff who initiated the order. The medication order also includes a "Discontinue Medication" subform. When a medication is discontinued it is removed from the verified medication list to prevent it from being administered. The medication order form can be modified by the organization to accommodate its ordering system and related procedures.

A copy of the medication order form is below:

**Akers, William** [Save] [Cancel]

Order | Noted | Medication Review Notes

Date: 3/31/2004 Time: 04:16 PM

Verbal Order:  Yes  No Taken By: [Dropdown]

Medication: [Dropdown] Controlled substance (checked is true)

Dose: [Text] Route: [Dropdown]

Frequency: [Dropdown] Ordered By: [Dropdown]

Instructions: [Text]

Start Date: 03/31/2004 04:16 PM

End Date: [Text]

May substitute generic equivalent (checked is true)

Medication Information Sheet given to patient (checked is true)

This Medication is for a AXIS III medical condition (checked is true)

**Discontinue Medication**

[Discontinue]

The organization should take steps to reduce potential for medication errors or misinterpretation. Therefore, organizations should establish specific requirements for a complete order or prescription including PRN orders, standing orders, automatic stop orders, hold orders and discharge orders. The TIER<sup>®</sup> order and prescription forms can be modified to reflect the organization's practices and requirements.

The following is a copy of the medication prescription form in TIER<sup>®</sup>:

The screenshot shows a software window titled "Medication Prescription (Akers, William)". The window has a menu bar with "File", "Edit", "Search", and "Object". Below the menu bar is a toolbar with icons for Save, Prev, Next, List, Print, Cut, Copy, Paste, and Info. The main area of the window is a form for "Akers, William" with "Save" and "Cancel" buttons. The form has a tab labeled "Prescription" and a section for "Medication Review Notes". The form fields include: Date (3/31/2004), Time (04:19 PM), Ordered By (dropdown), Medication (dropdown), Dose (text), Frequency (dropdown), Refills (text), and Instructions (text). There are four checkboxes with red text: "May substitute generic equivalent (checked is true)", "Medication Information Sheet given to patient (checked is true)", "This Medication is for a AXIS III medical condition (checked is true)", and "Controlled substance (checked is true)". There is also a checkbox for "Discharge Prescription" which is unchecked.

The prescription form can be printed for the patient to take to or submitted electronically to pharmacies that can accommodate such transmissions.

### Preparing and Dispensing

This function is applicable to organizations that dispense or prepare medications for administration. Basic requirements of this function are that medication orders or prescriptions be reviewed for appropriateness by a licensed pharmacist. Medications must be properly labeled and safely prepared and dispensed. As noted above, medication orders in TIER<sup>®</sup> require a pharmacist review prior to administration.

### Administering

TIER<sup>®</sup>'s medication administration record supports safe and accurate administration of medications. Before administering a medication, authorized staff can verify each of the following conditions:

- ✓ Identification of the patient who is to receive the medication.
- ✓ That the medication selected is correct based on the order and product label.
- ✓ That the medication is stable based on visual examination and has not expired or been discontinued.
- ✓ That there is no contraindication present for administering the medication.

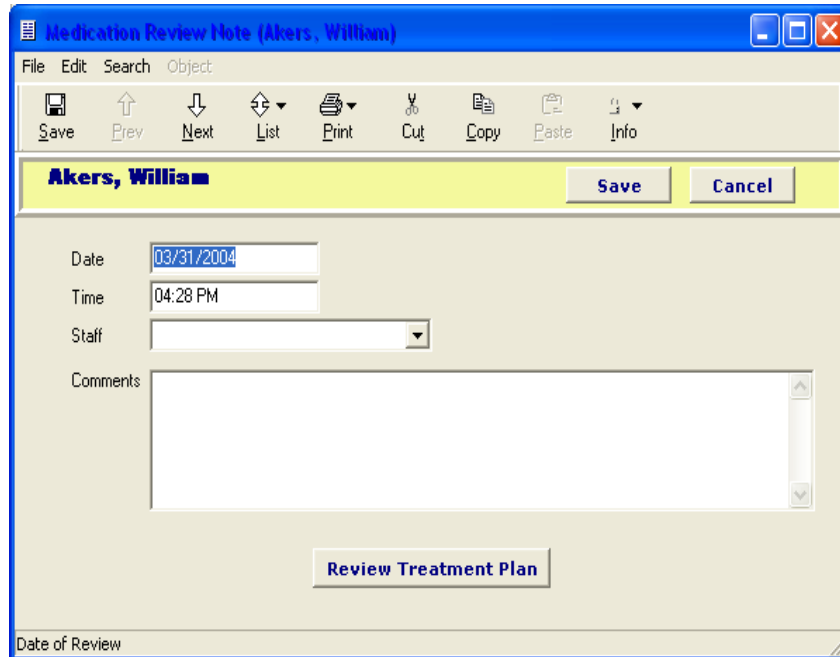
- ✓ That the medication is being administered at the appropriate time, with proper dose and correct route.
- ✓ Inquire with patient as to any concerns or issues about the medication.

A Medication Administration form and subform are included to document administration of all medications by nursing or other authorized staff. These are below:

Note also that the MAR form contains an OLE container to insert client's picture and is also linked to a list view so that the entire history of administration of the selected medication is documented.

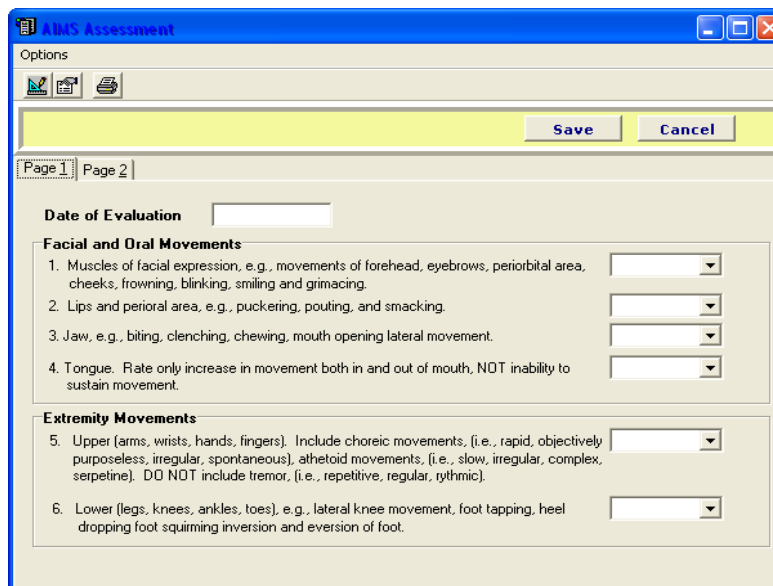
## Monitoring

The effects of all medications on patients must be monitored to assure that the medication therapy is appropriate while also minimizing the potential for adverse reactions or significant extrapyramidal symptoms such as tardive dyskinesia. Monitoring should also focus on use of high-risk or high-alert drugs since those drugs are often involved in a high percentage of medication errors and carry a higher risk for abuse or other adverse outcomes. Such drugs, if approved for use, should be clearly identified in the formulary or drug list and should include specific monitoring requirements, as appropriate and necessary. A “medication review” tab is included with each order to document patient response to the medication. A copy of this tab is below:



The screenshot shows a software window titled "Medication Review Note (Akers, William)". It features a menu bar with "File", "Edit", "Search", and "Object". Below the menu is a toolbar with icons for Save, Prev, Next, List, Print, Cut, Copy, Paste, and Info. A yellow header bar displays the patient name "Akers, William" and "Save" and "Cancel" buttons. The main form area includes fields for "Date" (03/31/2004), "Time" (04:28 PM), and "Staff" (a dropdown menu). A large "Comments" text area is present, followed by a "Review Treatment Plan" button. The status bar at the bottom indicates "Date of Review".

TIER<sup>®</sup> also includes the Adult Involuntary Movement Scale (AIMS) that can be used to monitor patients receiving long term psychotropic medications. A copy of this form follows:



The screenshot shows a software window titled "AIMS Assessment". It has an "Options" menu bar and a toolbar with icons for Save, Print, and a printer. A yellow header bar contains "Save" and "Cancel" buttons. Below this is a page indicator showing "Page 1" and "Page 2". The form is divided into sections: "Date of Evaluation" (a text field), "Facial and Oral Movements" (a section header), and "Extremity Movements" (a section header). Under "Facial and Oral Movements", there are four numbered items, each with a dropdown menu: 1. Muscles of facial expression, e.g., movements of forehead, eyebrows, periorbital area, cheeks, frowning, blinking, smiling and grimacing. 2. Lips and perioral area, e.g., puckering, pouting, and smacking. 3. Jaw, e.g., biting, clenching, chewing, mouth opening lateral movement. 4. Tongue. Rate only increase in movement both in and out of mouth, NOT inability to sustain movement. Under "Extremity Movements", there are two numbered items, each with a dropdown menu: 5. Upper (arms, wrists, hands, fingers). Include choreic movements, (i.e., rapid, objectively purposeless, irregular, spontaneous), athetoid movements, (i.e., slow, irregular, complex, serpentine). DO NOT include tremor, (i.e., repetitive, regular, rhythmic). 6. Lower (legs, knees, ankles, toes), e.g., lateral knee movement, foot tapping, heel dropping foot squirming inversion and eversion of foot.

**AIMS Assessment**

Options

Save Cancel

Page 1 Page 2

**Trunk Movements**  
7. Neck, shoulders, hips, e.g., rocking, twisting, squirming, pelvic gyrations.

**Global Movements**  
8. Severity of abnormal movements.  
9. Incapacitation due to abnormal movements.  
10. Patient's awareness of abnormal movements.

**Dental Status**  
11. Current problems with teeth.  
12. Does patient usually wear dentures?

Total Score ■

Comments

In addition, the following forms have been included to document medication errors and adverse drug reactions.

**Medication Error Record**

Options

CQMS ID Date

Medication

Error Type

If "Other" please specify

Action taken, please specify

Follow-up recommended

## System Evaluation

Organizations are also encouraged to evaluate their overall medication management system on a regular basis to assess cost versus benefits as well as to identify risk points and ways to improve the effectiveness and safety of the system. Ongoing medication usage review is recommended, and a basic form is included with TIER<sup>®</sup> to document medication usage evaluations. This information can also be incorporated into the provider profile for reappointment and re-privileging of medical staff. This form is below:

Feedback from patients, families and staff is also encouraged as part of system evaluation. TIER<sup>®</sup> provides a variety of questionnaires and reports to facilitate system evaluation.

## **Summary**

The Medical Orders and Medication Management functions in TIER<sup>®</sup> Workflow are provided to assist organizations with providing safe and responsive medical management in all programs and settings. The order forms have been developed from a generic approach and can be further customized to fit the organization's specific requirements. Organizations are encouraged to utilize current evidence-based practice and national practice guidelines as a basis for customizing this function in TIER<sup>®</sup> Workflow.

Drill downs and reports also can be generated to review ordering information. Data and information collected can also be integrated with performance monitoring activities under the Quality Management Component of TIER<sup>®</sup> Workflow. Review of medical management patterns and trends will also facilitate compliance with patient safety and risk management requirements of JCAHO, CARF and COA.