






The Electronic MAR and Script

The eMAR and the Script Interface

Nursing workflow was a priority when American Data developed the functionality of the Script interface. Traditionally interfacing is a function outside the nursing; for valid reasons! With the critical impact this interface could have on patient safety and medication administration, American Data felt nursing must keep in tune with the messages being exchanged between facility and pharmacy.

The interface messaging is integrated with the eMAR. Nurses are intimately familiar with the eMAR functionality and they utilize this function multiple times a shift. It made sense to put visual cues and messages in this location. When the Script interface is enabled, each medication order that is entered into ECS has an Rx icon next to it on the eMAR. The color of the Rx icon provides important information to staff.

Sample eMAR with Script Interface Enabled

	Furosemide 20MG Tablet Dose: (1 tablet / 20mg) by mouth daily 0800 For: Edema
	Levothyroxine Sodium 50MCG Tablet Dose: (1 tablet / 50mcg) by mouth daily 0800 For: Hypothyroidism Administration Instructions: Take on an empty stomach.
	Vitamin D 1000UNIT Tablet Dose: (1 tablet / 1000unit) by mouth daily 0800 For: Vitamin D Deficiency
	Metoprolol Tartrate 50MG Tablet Dose: (1 tablet / 50mg) by mouth daily 0900 For: Hypertension (High Blood Pressure)
	Morphine Sulfate 30MG Tablet Dose: (1 tablet / 30mg) by mouth at bedtime 2100 x 5 days For: Moderate to Severe Chronic Pain

Green Rx Icon

The green Rx icon informs users the message was electronically sent, and pharmacy accepted the message.

Yellow Rx Icon

The yellow Rx icon signifies the message was sent electronically, however pharmacy has not yet sent validation of accepting the message. It is expected users see yellow icons for the first ten minutes after the order is written as it may take this amount of time for pharmacy to route a validation message back to ECS.

Red Rx Icon

The red Rx icon can mean a few things. If the medication is a controlled substance and the user writing the order did not print the fax form, the Rx icon will be red. If an RxFill message from the pharmacy indicates the med is not being filled, or the medication prescribed does not match what was dispensed, the Rx icon will be red.

Blue Rx Icon

The blue icon signifies the medication is currently suspended.

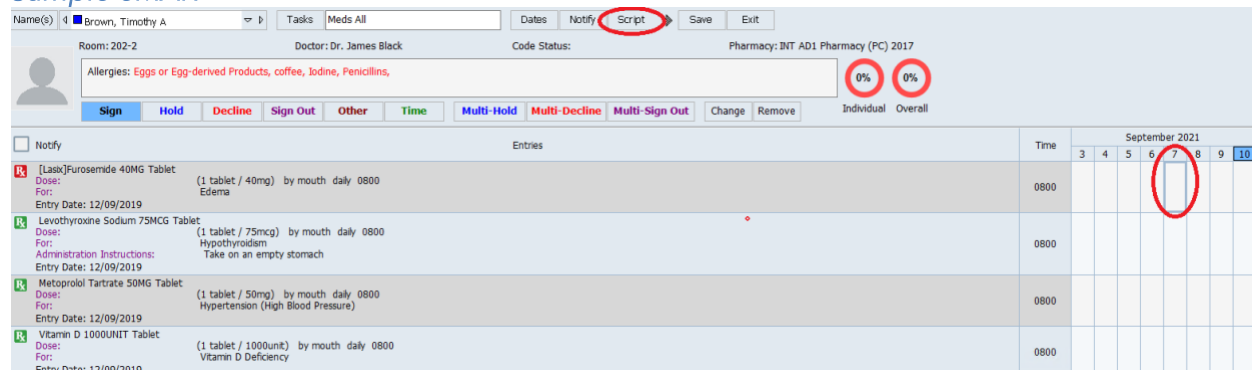
Half Blue, Half Green/Yellow/Red Rx Icon

The Rx icon that is half blue and half another color signifies an order that has a suspension that is set in the future. The yellow, green or red color indicates the current state of the order. The blue indicates that a suspension has been sent, but it is effective in the future.

The Script History

While in the eMAR, users have access to the history and status of the electronic Script messages. To review the Script History first select the order to review, then select the Script button.

Sample eMAR



The screenshot shows the eMAR interface for a patient named Timothy A. Brown. The 'Script' button is circled in red. Below the patient information, there is a table of medication entries with a calendar for September 2021. The date '7' is circled in red.

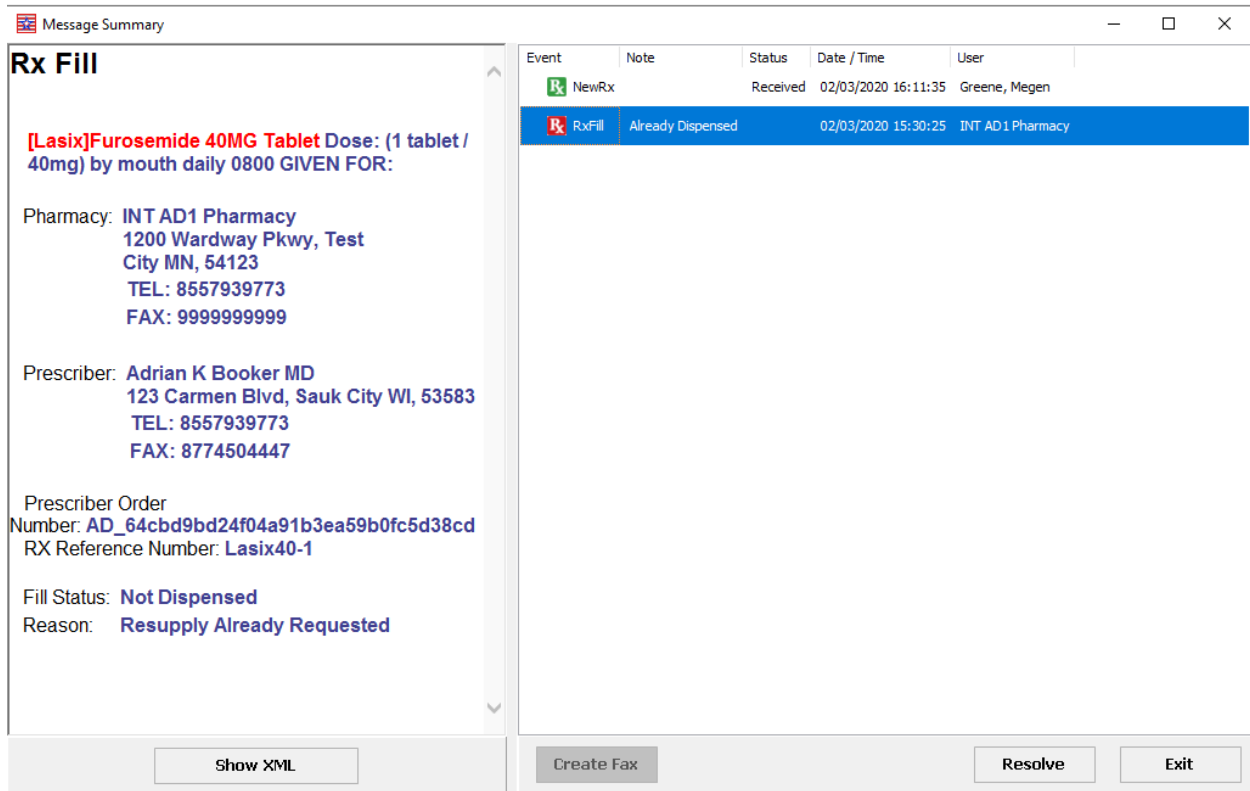
		September 2021							
		3	4	5	6	7	8	9	10
<input type="checkbox"/>	Notify								
<input checked="" type="checkbox"/>	[Ask]Furosemide 40MG Tablet								
	Dose: (1 tablet / 40mg) by mouth daily 0800								
	For: Edema								
	Entry Date: 12/09/2019								
<input checked="" type="checkbox"/>	Levothyroxine Sodium 75MCG Tablet								
	Dose: (1 tablet / 75mcg) by mouth daily 0800								
	For: Hypothyroidism								
	Administration Instructions: Take on an empty stomach								
	Entry Date: 12/09/2019								
<input checked="" type="checkbox"/>	Metoprolol Tartrate 50MG Tablet								
	Dose: (1 tablet / 50mg) by mouth daily 0800								
	For: Hypertension (High Blood Pressure)								
	Entry Date: 12/09/2019								
<input checked="" type="checkbox"/>	Vitamin D 1000UNIT Tablet								
	Dose: (1 tablet / 1000unit) by mouth daily 0800								
	For: Vitamin D Deficiency								
	Entry Date: 12/09/2019								

Once the Script button is selected the Message Summary screen appears displaying the Script electronic message history and status.

The right-side of the screen displays the electronic messages in chronologic order. The Event column shows the type of message, NewRx, Resupply, RxFill, Cancel Rx, etc. If the pharmacy sends back a Note in an RxFill message, the user may see that in the Note column. For outgoing messages, such as NewRx and Resupply, once ECS received a verify back from the pharmacy, the Status column should show a status of Received. The Date/Time column shows the date/time that the message was sent or received. The user column shows the user who sent the message, either from ECS or the pharmacy. If it's a message from the pharmacy, then the pharmacy name is usually listed in the User column.

The left-side of the screen toggles between the summary of the electronic message (this is the default) and the entire electronic message. As the user clicks on a different message on the right side (New Rx, Resupply, RxFill), the view on the left will change. The type of message that was selected is displayed in bold at the top. The medication and directions, pharmacy, prescriber, PON and RxReference Number will display on the screen. On RxFill messages that come from the pharmacy, the Fill Status and Reason area are also clearly visible to the user. To review the full electronic message, click the Show XML button.

Sample Script History Screen



The screenshot shows a software interface titled "Message Summary". On the left, under the heading "Rx Fill", the following information is displayed:

[Lasix]Furosemide 40MG Tablet Dose: (1 tablet / 40mg) by mouth daily 0800 GIVEN FOR:

Pharmacy: **INT AD1 Pharmacy**
 1200 Wardway Pkwy, Test
 City MN, 54123
 TEL: 8557939773
 FAX: 9999999999

Prescriber: **Adrian K Booker MD**
 123 Carmen Blvd, Sauk City WI, 53583
 TEL: 8557939773
 FAX: 8774504447

Prescriber Order
 Number: **AD_64cbd9bd24f04a91b3ea59b0fc5d38cd**
 RX Reference Number: **Lasix40-1**

Fill Status: **Not Dispensed**
 Reason: **Resupply Already Requested**

At the bottom of the left panel are buttons for "Show XML", "Create Fax", "Resolve", and "Exit".

On the right side, a table lists messages:

Event	Note	Status	Date / Time	User
NewRx		Received	02/03/2020 16:11:35	Greene, Megan
Rx Fill	Already Dispensed		02/03/2020 15:30:25	INT AD1 Pharmacy

Red Rx Icon Workflow

When an Rx icon is red, nursing reviews the history to see the notes from pharmacy. This assists staff with determining the course of action for this order. The above RxFill has a red Rx icon because pharmacy did not fill the order. Users can look in the note column on the right side to see fill notes from the pharmacy. In the lower part of the left side, the RxFill will also

display the Fill Status and Reason. Upon reviewing the above Lasix order the nurse can see the pharmacy had already sent the medication. The nurse can manually resolve the red Rx icon by clicking the Resolve button. This action turns the red Rx icon to green once the MAR is refreshed.

When narcotic medications are ordered the nurse must fax the order to pharmacy. ECS presents a red Rx icon on the eMAR if the nurse does not print the fax form presented at the time of writing the order. This can be resolved by either printing the fax form or by manually resolving the error. Please note the error should be manually resolved only if the order was sent to pharmacy in another manner.

To print the fax form after the order has been saved:

1. Select the medication on the eMAR and click the Script button
2. Select the appropriate Event (ex. NewRx)
3. Click the Create Fax button

The most common reasons for red Rx icons on the eMAR include:

- The Fax Form was not printed when a new narcotic order was entered into ECS
- Pharmacy returned an electronic message stating they did not fill the requested medication
- Pharmacy returned an electronic message stating the medication prescribed does not match the medication dispensed

The expectation is there will be no red Rx icons on the eMAR. To facilitate this for nursing, American Data added the Red Rx (eMAR) Review button on the Physician Order Access Screen. This button gathers all the selected clients' eMARs and displays the orders that have red Rx icons.

Physician Order Access Screen

Physician Orders	New Orders				Chart Review		Reports
Nurse Menu	Allergies	Lab/Xray	PPD/ Vaccines	Treatments	View/Edit Current Orders	For E-Prescribing	Print Physician Orders
	Blood Glucose Checks	Life Activity/ FYI	Standing Orders	Tube Feed/ IV Protocols	View/Edit Held Orders	Script Holding Queue	Print MAR
	Code Status	Medications	Supportive Devices	Side Effects	View Current/DC'd Orders	Red Rx (eMAR) Review	Print TAR
	Consults	Nursing Orders	Therapy	Psychotropic Med Monitoring	Med Use / Reconciliation		Print Daily Telephone Orders
	Diet/ Supplements	Orders Continuation	Transfers/ Discharges				

 NOTE: Orders that are NOT electronic appear on this eMAR as well

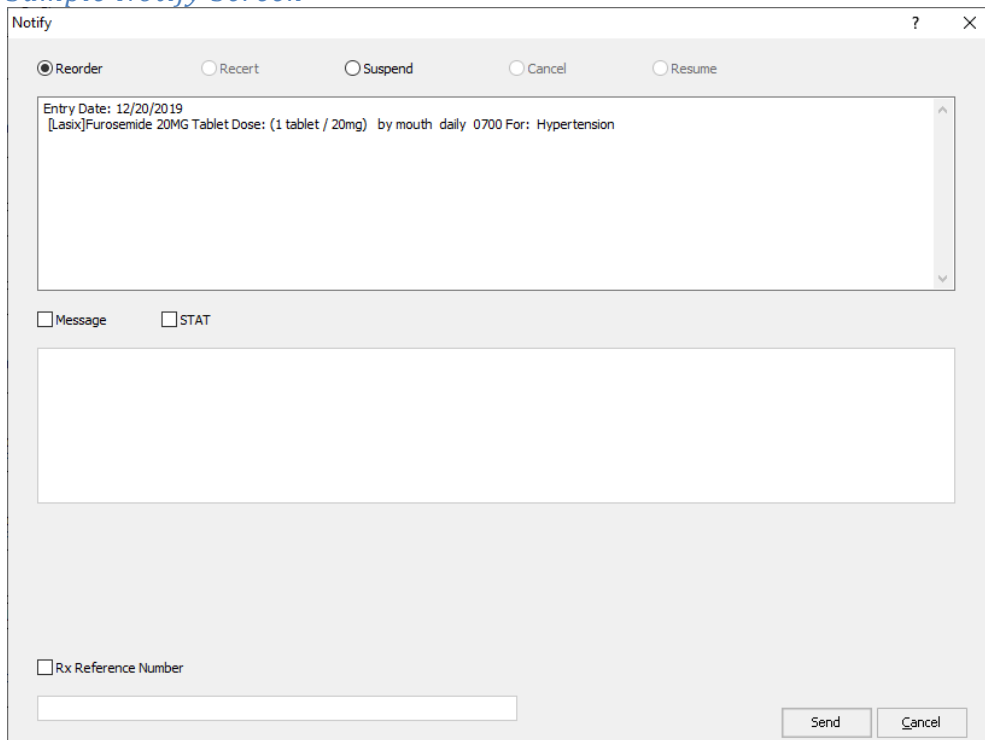
Reasons why an order may not be electronic include:

- Ordering prescriber was free-typed in the order
 - When an order is saved in this manner it must be faxed to pharmacy
 - To resolve this issue the prescriber should be added into ECS
- The Pharmacy listed in the order is not setup to receive electronic messages from ECS or is typed in.
- The Pharmacy Note exceeded the 210 character limit
 - When an order is saved with this character limit exceeded, nursing is alerted of the validation error and must fax the order
 - To resolve this issue, discontinue and copy the order to abbreviate the note to pharmacy
 - The note to pharmacy is different than Administration Instructions
- The order was entered prior to the interface being turned on
 - When this type of order is cancelled the cancel must be faxed to pharmacy
 - If this medication is up for reorder, the order can be sent electronically by manually entering the RxReferenceNumber at the time of Re-Order.

The Notify Screen

Upon saving a new medication entry, ECS will automatically send a NewRx message to pharmacy. When a medication order is discontinued, ECS will automatically send a CancelRx message to pharmacy. The Notify screen on the MAR allows users to manually send other message types, such as a resupply request.

Sample Notify Screen



Notify

Reorder Recert Suspend Cancel Resume

Entry Date: 12/20/2019
[Lasix]Furosemide 20MG Tablet Dose: (1 tablet / 20mg) by mouth daily 0700 For: Hypertension

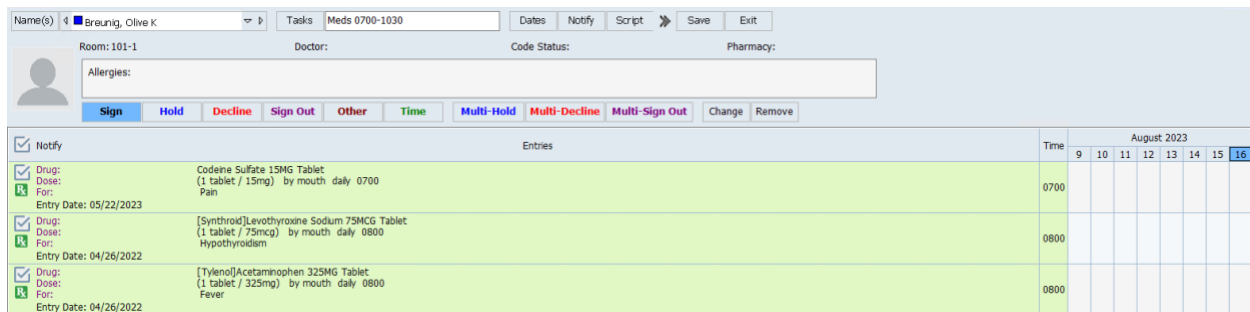
Message STAT

Rx Reference Number

Send Cancel

Sending a Resupply Request

1. From the MAR, click on a medication.
 - a. More than one order can be selected to reorder.
 - b. Use Ctrl on the keyboard to select the order(s). Click either in the Entry area for that med, or in one of the signature cells.
 - c. Put a check in the Notify box below the picture of the client. That will put a checkmark to the left of every entry. Put a check next to the order(s) to be reordered.



Notify		Entries	Time	August 2023							
				9	10	11	12	13	14	15	16
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Drug: Codaine Sulfate 15MG Tablet Dose: (1 tablet / 15mg) by mouth daily 0700 For: Pan Entry Date: 05/22/2023	0700								
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Drug: [Synthroid]Levothyroxine Sodium 75MCG Tablet Dose: (1 tablet / 75mcg) by mouth daily 0800 For: Hypothyroidism Entry Date: 04/26/2022	0800								
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Drug: [Tylenol]Acetaminophen 325MG Tablet Dose: (1 tablet / 325mg) by mouth daily 0800 For: Fever Entry Date: 04/26/2022	0800								

2. Click the Notify button.
3. The Reorder option will always be selected by default. The selected medication(s) should display in the upper box on the screen.
4. If a message needs to be sent to pharmacy, place a checkmark in the Message box. Type the message to pharmacy in the box below.
 - a. Max number of characters for a pharmacy note is 210.
 - b. If the characters go over 210, the message will fail to send to pharmacy.
5. If the medications need to be sent as STAT, put a check in that box.
 - a. All orders selected will send flagged as STAT
 - b. The orders will be sent as STAT for this message only. The next time a resupply is sent, they will not contain that flag unless checked again for that resupply.
6. If the Rx Reference Number needs to be sent, put a check in Rx Reference Number and type in the box below.
 - a. This can be used when syncing a "non electronic Script" order. Orders that do not have an Rx in the upper left corner.
 - b. Can be used if a different Rx Reference Number needs to be sent to the pharmacy.
 - c. Most of the time, that checkbox will not be used.
7. Click the Send button to send the resupply request to pharmacy.

Sending a Drug Administration - Indefinite Suspension Message

1. From the MAR, click on a medication.
 - a. More than one order can be selected to suspend.
 - b. Use Ctrl on the keyboard to select the order(s). Click either in the Entry area for that med, or in one of the signature cells.
 - c. Put a check in the Notify box below the picture of the client. That will put a checkmark to the left of every entry. Put a check next to the order(s) to be suspended.
2. Click the Notify button.
3. Click next to the Suspend option. The selected medication(s) should display in the upper box on the screen.
4. Users must choose a Suspend Reason from the drop-down menu.
5. If the user needs to send more information regarding the suspension reason, place a checkmark in the Message box. Type in the box below.
 - a. Max number of characters for the Suspension Reason is 100.
 - b. If the characters go over 100, the message will fail to send to pharmacy.
6. Choose the Start Date and Start Time for the suspension by clicking on the ellipsis box.
7. Click the Send button to send the indefinite suspension message to pharmacy.

Sending a Drug Administration - Fixed Length Suspension Message

1. From the MAR, click on a medication.
 - a. More than one order can be selected to suspend.
 - b. Use Ctrl on the keyboard to select the order(s). Click either in the Entry area for that med, or in one of the signature cells.
 - c. Put a check in the Notify box below the picture of the client. That will put a checkmark to the left of every entry. Put a check next to the order(s) to be suspended.
2. Click the Notify button.
3. Click next to the Suspend option. The selected medication(s) should display in the upper box on the screen.
4. Users must choose a Suspend Reason from the drop-down menu.
5. If the user needs to send more information regarding the suspension reason, place a checkmark in the Message box. Type in the box below.
 - a. Max number of characters for the Suspension Reason is 100.
 - b. If the characters go over 100, the message will fail to send to pharmacy.
6. Choose the Start Date and Start Time for the suspension by clicking on the ellipsis box.
7. Choose the End Date and End Time for the suspension by clicking on the ellipsis box.
8. Click the Send button to send the fixed length suspension message to pharmacy.

Sending a Drug Administration - Cancel Suspension Message

1. From the MAR, click on a medication.
 - a. More than one order can be selected to cancel.
 - b. Use Ctrl on the keyboard to select the order(s). Click either in the Entry area for that med, or in one of the signature cells.
 - c. Put a check in the Notify box below the picture of the client. That will put a checkmark to the left of every entry. Put a check next to the order(s) to be cancelled.
 - d. Only medications with solid blue or half blue Rx icons can be chosen to send a cancel.
2. Click the Notify button.
3. Click next to the Cancel option. The selected medication(s) should display in the upper box on the screen.
4. Click the Send button to send the cancel suspension message to pharmacy.

Sending a Drug Administration - Resume Administration Message

1. From the MAR, click on a medication.
 - a. More than one order can be selected to resume.
 - b. Use Ctrl on the keyboard to select the order(s). Click either in the Entry area for that med, or in one of the signature cells.
 - c. Put a check in the Notify box below the picture of the client. That will put a checkmark to the left of every entry. Put a check next to the order(s) to be resumed.
 - d. Only medications with solid blue or half blue Rx icons can be chosen to send a resume administration.
2. Click the Notify button.
3. Click next to the Resume option. The selected medication(s) should display in the upper box on the screen.
4. Choose the Effective Date and Effective Time the med will resume by clicking on the ellipsis box.
5. Click the Send button to send the resume administration message to pharmacy.