

Printed Medication Administration Record

Issues to be discussed:

- Type of printers to be used
- Device and Terminal types
- Type of Labels Used
- Workflow of Medication Administration Record (MAR) labels and MAR sheets.
- When do labels and MAR sheets print and who prints them.
- Who should “own” the MAR sheets and MAR labels e.g., updates.
- Should you have written med orders and MAR labels on the same MAR sheet?
- 24 hour vs. 7 day vs. 14 day MAR sheets. Pros and Cons
- View the RPMS options that function with the MAR sheets and Labels
- Discuss difficult med orders: sliding scale insulin, tapering orders
- How to deal with one-time orders e.g., stat and now orders

cgMAR Script

Terminal Types for HP 4100 printer

132-Column:

```
NAME: P-HP5N-16.67                RIGHT MARGIN: 132
FORM FEED: #                       PAGE LENGTH: 65
BACK SPACE: $C(8)
OPEN EXECUTE: W *27,"E",*27,"&l1E",*27,"(s0p16.67h8.5v0s0b0T"
CLOSE EXECUTE: W *27,"E"           10 PITCH: $C(27)_"(s10h"
12 PITCH: $C(27)_"(s12h"          DESCRIPTION: HP LaserJet 5N 16.67-
Pitch
16 PITCH: $C(27)_"(s16.66h"
```

80-column:

```
NAME: P-HP5N-10                   RIGHT MARGIN: 80
FORM FEED: #                       PAGE LENGTH: 65
BACK SPACE: $C(8)
OPEN EXECUTE: W *27,"E",*27,"&l1E",*27,"(10H"
CLOSE EXECUTE: W *27,"E"           10 PITCH: $C(27)_"(s10h"
12 PITCH: $C(27)_"(s12h"          DESCRIPTION: HP LaserJet 5N 10-Pitch
16 PITCH: $C(27)_"(s16.66h"

Terminal Type for HP4350
```

```
NAME: PTR456-MAR                   $I: lp -d ptr456mar
ASK DEVICE: NO                     ASK PARAMETERS: NO
VOLUME SET(CPU): PIMC              LOCATION OF TERMINAL: OB WARD 4WEST
OPEN PARAMETERS: "IQW"
MNEMONIC: 4OB
MNEMONIC: 456
MNEMONIC: 4MAR
SUBTYPE: P-BZX-HP1111-P16          TYPE: OTHER
```

Terminal Type for HP 1300:

```
NAME: PTR350-CONDENSED             $I: lp -d ptr350c
ASK PARAMETERS: NO                  VOLUME SET(CPU): PIMC
SIGN-ON/SYSTEM DEVICE: NO
LOCATION OF TERMINAL: 2ND FLOOR PHARMACY (MAR, RPTS, ETC)
OPEN PARAMETERS: "QWI"
MNEMONIC: IP2
SUBTYPE: P-BZX-HP1111-P16          TYPE: OTHER
```

Unit Dose Medication Options:

ALUD	Align Labels (Unit Dose)
DAPO	Discontinue All of a Patient's Orders
EUP	Edit Inpatient User Parameters
ESD	Edit Patient's Default Stop Date
HAP0	Hold All of a Patient's Orders
IOE	Inpatient Order Entry
IPF	Inpatient Profile
INQ	INquiries Menu ...
LPUD	Label Print/Reprint
NV	Non-Verified/Pending Orders
OE	Order Entry
PICK	PICK List Menu ...
PPUD	PATient Profile (Unit Dose)
REPM	Reports Menu ...
SUPM	Supervisor's Menu ...

Supervisor's Menu

Ward Group Set Up (have to set these up in FileMan with IT help)

```
NAME: PIMC 3RD FLOOR//
Select WARD: 3EA//
LENGTH OF PICK LIST (in hours): 24//
PICK LIST - OMIT WARD SORT: NO (SORT BY WARD)
  Choose from:
    0      NO (SORT BY WARD)
    1      YES (DO NOT SORT BY WARD)
PICK LIST - OMIT ROOM-BED SORT: NO (SORT BY ROOM-BED)
  Choose from:
    1      YES (DO NOT SORT BY ROOM-BED)
    0      NO (SORT BY ROOM-BED)
PICK LIST - ROOM/BED SORT: ROOM-BED//
  Choose from:
    0      ROOM-BED
    1      BED-ROOM
PICK LIST - FORM FEED/PATIENT: NO//
  Choose from:
    0      NO
    1      YES
PICK LIST - FORM FEED/WARD: NO//
  Choose from:
    1      YES
    0      NO
PICK LIST - LINES ON FORM FEED: NO//
  Choose from:
    1      YES
    0      NO
PRINT NON-ACTIVE ORDERS FIRST: NO//
  Choose from:
    1      YES
    0      NO
BAXTER ATC DEVICE:
USE OLD ATC INTERFACE:
```

cgMAR Script

Parameters Edit Menu

```
Auto-Discontinue Set-Up
IUP   Inpatient User Parameters Edit
IWP   Inpatient Ward Parameters Edit
Systems Parameters Edit
```

Inpatient User Parameters Edit

```
IUP   Inpatient User Parameters Edit
Select INPATIENT USER: Donald Duck      jww      PHARMACIST
      ...OK? Yes// (Yes)
This user is a PHARMACIST and a PROVIDER.
ALLOW AUTO-VERIFY FOR USER: YES//
ORDER ENTRY PROCESS: REGULAR//
Choose from:
0      REGULAR
1      ABBREVIATED
2      WARD
```

Inpatient Ward Parameters Edit

```
IWP   Inpatient Ward Parameters Edit
Select Parameters Edit Menu Option: iw  Inpatient Ward Parameters Edit
Select WARD: 3eA
      ...OK? Yes// (Yes)
DAYS UNTIL STOP DATE/TIME: 100//
DAYS UNTIL STOP FOR ONE-TIME: 1//
SAME STOP DATE ON ALL ORDERS: NO//
TIME OF DAY THAT ORDERS STOP: 1500//
DEFAULT START DATE CALCULATION: USE NEXT ADMIN TIME AS DEFAULT
Choose from:
0      USE CLOSEST ADMIN TIME AS DEFAULT
1      USE NEXT ADMIN TIME AS DEFAULT
2      USE NOW AS DEFAULT
START TIME FOR 24 HOUR MAR: 0001//
LABEL FOR WARD STAFF: NO LABELS//
Choose from:
0      NO LABELS
1      FIRST LABEL ON ORDER ENTRY/EDIT
2      LABEL ON ENTRY/EDIT AND VERIFICATION
3      FIRST LABEL ON NURSE VERIFICATION
WARD LABEL PRINTER: PTR362//
LABEL FOR PHARMACY: NO LABELS//
Choose from:
0      NO LABELS
1      FIRST LABEL ON ORDER ENTRY/EDIT
2      LABEL ON ENTRY/EDIT AND VERIFICATION
3      FIRST LABEL ON PHARMACIST VERIFICATION
PHARMACY LABEL PRINTER: PTR329//
LABEL ON AUTO-DISCONTINUE: NO//
MAR HEADER LABELS: YES//
DAYS NEW LABELS LAST: 1//
MAR ORDER SELECTION DEFAULT: 1//
Choose from:
1 - All Medications
2 - Non-IV Medications only
3 - IV Piggybacks
4 - LVPS
```

cgMAR Script

```
5 - TPNs
6 - Chemotherapy Medications (IV)
PRINT PENDING ORDERS ON MAR: YES//
'SELF MED' IN ORDER ENTRY: NO//
PRE-EXCHANGE REPORT DEVICE: TELNET LOGIN//
```

Systems Parameters Edit

```
NON-FORMULARY MESSAGE:
MEDICATION NOT ON FORMULARY- REQUEST NON-FORMULARY CONSULT

Edit? NO//
PRINT 6 BLOCKS FOR THE PRN MAR: YES//
PRINT DIET ABBR LABEL ON MAR: YES//
MAR SORT: Sort by order's Medication Names//
  Choose from:
    0      Sort by order's Schedule Type and then Medication Names.
    1      Sort by order's Medication Names.
ATC SORT PARAMETER:
CALC UNITS NEEDED PRN ORDERS: YES//
DAYS UNTIL STOP FOR ONE-TIME: 1//
ROUND ATC PICK LIST UNITS:
```

cgMAR Script

How to print the MAR Labels (through IOE)

```
Inpatient Order Entry      Jun 18, 2009 14:30:29      Page:      1 of      1
TEST,PATIENT,JR          Ward: 3EA                      CWA
  HRN: 988888            Room-Bed:                      Ht(cm): 160.00 07/07/2006
  DOB: 01/02/02 (7)     Wt(kg): 75.16 07/07/2006
  Sex: MALE              Admitted: 06/18/09
  Dx: DEMO PATIENT      Last transferred: *****

- - - - - A C T I V E - - - - -
  1  LISINOPRIL TAB      C 06/18 09/26 A  WS
      Give: 5MG PO QDAY
      Enter ?? for more actions
PU  Patient Record Update      NO  New Order Entry

The following actions are also available:
+  Next Screen          PS  Print Screen          OTH  Other Pharmacy Options
-  Previous Screen     PT  Print List            DC   Speed Discontinue
UP  Up a Line          SL  Search List          RN   Speed Renew
DN  Down a Line        Q   Quit                SF   Speed Finish
FS  First Screen       ADPL Auto Display(On/Off) SV  Speed Verify
LS  Last Screen        MAR  MAR Menu            CWAD CWAD Information
GO  Go to Page         LBL  Label Print/Reprint
RD  Re Display Screen  JP   Jump to a Patient

      --- Label Print/Reprint ---
ALUD Align Labels (Unit Dose)      ILIV Individual Labels (IV)
LPUD Label Print/Reprint          SLIV Scheduled Labels (IV)
ALIV Align Labels (IV)           RSIV Reprint Scheduled Labels (IV)

Select Item(s):LPUD

      I N P A T I E N T   M E D I C A T I O N S      06/18/09  14:38
      SITE: PHOENIX INDIAN MED CTR (606601)
- - - - -
TEST,PATIENT,JR          Ward: 3EA
  PID: 988888            Room-Bed: * NF *          Ht(cm): 160.00 07/07/2006
  DOB: 01/02/02 (7)     Wt(kg): 75.16 07/07/2006
  Sex: MALE              Admitted: 06/18/09
  Dx: DEMO PATIENT

- - - - - A C T I V E - - - - -
  1  LISINOPRIL TAB      C 06/18 09/26 A  WS
      Give: 5MG PO QDAY
Select orders for labels:1
Number of labels to print: (1-99): 1//
Label Printing Device: <enter network printer>
-----
```

cgMAR Script

How to print MAR Sheets

(For one patient through IOE menu)

```
Patient Information      Jun 18, 2009 15:00:12      Page: 1 of 1
TEST,PATIENT,JR        Ward: 3EA                  CWA
  HRN: 988888          Room-Bed:                Ht(cm): 160.00 07/07/2006
  DOB: 01/02/02 (7)   Wt(kg): 75.16 07/07/2006
  Sex: MALE           Admitted: 06/18/09
  Dx: DEMO PATIENT    Last transferred: *****

Allergies - Verified: HYDROCHLOROTHIAZIDE, LISINOPRIL, MINOCYCLINE,
Non-Verified:

Inpatient Narrative:
Outpatient Narrative:

PU Patient Record Update      NO New Order Entry
DA Detailed Allergy/ADR List  IN Intervention Menu
VP View Profile
Select Action: View Profile// ??

The following actions are also available:
+ Next Screen      LS Last Screen      ADPL Auto Display(On/Off)
- Previous Screen  GO Go to Page      MAR MAR Menu
UP Up a Line       RD Re Display Screen LBL Label Print/Reprint
DN Down a Line     PS Print Screen     OTH Other Pharmacy Options
> Shift View to Right PT Print List      CWAD CWAD Information
< Shift View to Left SL Search List
FS First Screen   Q Quit

                --- MAR Menu ---

24  24 Hour MAR
7   7 Day MAR
14  14 Day MAR
MD  Medications Due Worksheet

Select Item(s): 7 7 Day MAR
Select the MAR forms: 3// Print both Blank and Non-Blank MARs
  Select one of the following:
    1 Print Blank MARs only
    2 Print Non-Blank MARs only
    3 Print both Blank and Non-Blank MARs
Select TYPE OF SHEETS TO PRINT: BOTH//
CHOOSE FROM:
  C CONTINUOUS
  P PRN
  B BOTH
Enter START DATE/TIME for 7 day MAR: Now
Enter medication type(s): 1//?
1. All medications
2. Non-IV medications only
3. IVPB
4. LVPs
5. TPNS
6. Chemotherapy medications (IV)
Select PRINT DEVICE:
-----
```


cgMAR Script

How to print MAR Sheets thru REPORTS OPTION

Unit Dose Menu (may print one or multiple patients thru this option).

```
ADR   Adverse Reaction Tracking ...
AUTO  Automatic Replenishment ...
BEX   Telephone Refill Transaction Menu ...
BOP   BOP User Menu ...
GVM   Adverse Reaction Tracking Verifier Menu ...
IHS   IHS-Specific Pharmacy Options ...
IRM   BOP IRM MENU ...
IV    IV Menu ...
MAR   Pharmacy MARS Menu for Nursing ...
MRX   Outpatient Pharmacy Manager ...
NDF   National Drug File Menu ...
PDM   Pharmacy Data Management ...
PRX   Pharmacist Menu ...
UDM   Unit Dose Medications ...
```

Select Pharmacy Main Menu Option: UDM Unit Dose Medications

```
ALUD  Align Labels (Unit Dose)
DAPO  Discontinue All of a Patient's Orders
EUP   Edit Inpatient User Parameters
ESD   Edit Patient's Default Stop Date
HAPO  Hold All of a Patient's Orders
IOE   Inpatient Order Entry
IPF   Inpatient Profile
INQ   INquiries Menu ...
LPUD  Label Print/Reprint
NV    Non-Verified/Pending Orders
OE    Order Entry
PICK  Picky List Menu ...
PPUD  Patient Profile (Unit Dose)
REPM  Reports Menu ...
SUPM  Supervisor's Menu ...
```

Select Unit Dose Medications Option: REPM Reports Menu

```
7     7 Day MAR
14    14 Day MAR
24    24 Hour MAR
AADS  Authorized Absence/Discharge Summary
AP1   Action Profile #1
AP2   Action Profile #2
EUDR  Extra Units Dispensed Report
FREE  Free Text Dosage Report
ISON  INpatient Stop Order Notices
MD    Medications Due Worksheet
PP    Patient Profile (Extended)
```

Select Reports Menu Option: 7 Day MAR

Select the MAR forms: 3// ?

Select one of the following:

```
1     Print Blank MARs only
2     Print Non-Blank MARs only
3     Print both Blank and Non-Blank MARs
```

Select the MAR forms: 3// Print both Blank and Non-Blank MARs

cgMAR Script

```
Select TYPE OF SHEETS TO PRINT: BOTH// ?
```

```
CHOOSE FROM:
```

```
  C      CONTINUOUS  
  P      PRN  
  B      BOTH
```

- Type **C** to print only continuous sheets for the patient(s) selected.
- Type **P** to print only prn sheets (one-time and on call orders print on the PRN sheets).
- Type **B** (or press RETURN) to print both sheets.

```
Select TYPE OF SHEETS TO PRINT: BOTH// <Enter>
```

```
Enter START DATE/TIME for 7 day MAR: NOW (JUL 12, 2009@11:26:36)
```

```
Select by WARD GROUP (G), WARD (W), or PATIENT (P): PATIENT
```

Can enter entire ward here if desired - use this option if printing 24 hr MARs.

```
Select PATIENT: ANITA MAR  
Select another PATIENT: <Enter>
```

Enter more than one patient if needed.

```
Enter medication type(s): 1// <Enter>  
Select PRINT DEVICE: <enter network printer name here>  
-----
```

Comparison of MAR Sheets

7 Day Continuous MAR

- 14 day MAR is virtually identical but each space for documentation is half as wide.
- Average length of stay is 4 days.
- Our process is to add MAR labels for new orders (after initial MAR is printed).
- Our process is to highlight “yellow out” discontinued or changed orders.
- The MAR can be re-printed at any time for a new “clean” copy, or if LOS greater than 7 days.

cgMAR Script

- Difficult to easily view amount of *pro re nata* meds administered over a few days (e.g. adding up total amount of morphine or lorazepam from past 48 hrs requires finding past days sheet(s)).

ONE-TIME/PRN SHEET 24 HOUR MAR
 06/28/2009 00:01 through 06/28/2009 24:00 SITE: PHOENIX INDIAN MED CTR (606601)
 Name: PATIENT, ANY Weight (kg): 127.47 06/26/2009
 Ward: ICU PID: 28793 DOB: 06/23/1963 (46) Height (cm): 156.85 01/24/2005
 Room-Bed: ICU-5
 Sex: FEMALE Dx: LEFT CHEST ABCESS Admitted: 06/26/2009 19:00
 Allergies: NKA ADR:

Order	Start	Stop	Admin Times	Admin																								
				01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
06/28	06/28 10:17	10/06/09 15:00	(P)																									
BISACODYL TAB,EC				P																								
Give: 10MG PO QDAY PRN																												
FOR CONSTIPATION																												
WS RPH: reg RN: _____																												

06/26	06/26 21:00	10/04/09 15:00	(P)																									
MORPHINE INJ				P																								
Give: 2-8 MG IV Q1H PRN																												
FOR PAIN																												
WS RPH: SMD RN: RNM																												

06/26	06/26 21:00	10/04/09 15:00	(P)																									
PERCO CET 325/5 U/D TAB				P																								
Give: 1 TO 2 TABLETS PO Q4H PRN																												
FOR PAIN																												
WS RPH: SMD RN: RNM																												

06/26	06/26 21:00	10/04/09 15:00	(P)																									
PROMETHAZINE INJ,SOLN				P																								
Give: 12.5MG IV Q3H PRN																												
FOR NAUSEA																												
WS RPH: SMD RN: RNM																												

SIGNATURE/TITLE	INIT	ALLERGIES	INJECTION SITES	MED/DOSE OMITTED	REASON	INIT
			-Indicate RIGHT (R) or LEFT (L)			
			1. DELTOID			
			2. ABDOMEN			
			3. ILIAC CREST			
			4. GLUTEAL			
			5. THIGH			
			PRN: E=Effective N=Not Effective			

PATIENT, ANY PID: XXXXXX Room-Bed: ICU-5

Figure 4: 24 hour PRN One-Time Order Sheet

Orders for One-Time Meds

Decision must be made regarding MAR labels for one-time meds. After trial and error, we have decided to have the nurse hand-write one time orders onto the MAR - here is why:

- Using MAR labels doesn't always work well:
 - If medication is needed STAT
 - If delays from time order written or entered via CPOE till finished by pharmacy and MAR label placed on the MAR.
 - If nurse has already administered the dose by using override or floor stock
- So, if nurse can override the medication, they usually will:
 - Then they need to document on the MAR
 - If the sticker is applied later, another nurse may think the order is not completed and re-administer
 - Also, the one-time order will appear in the ADM profile as an active, incomplete order (When a One-time dose is entered in RPMS, it appears on the ADM display in black text. Once that drug is selected and dose removed, the order appears "grayed-out" on the ADM profile, and the nurse cannot remove it again.)
- If the nurse cannot override the medication, they have to wait until order is entered before they can remove it from the ADM:
 - In this case MAR labels may work

Summary: MAR labels require legwork on the part of pharmacy, and with time sensitive orders, we have found that to be problematic

Non-Verified/Pending Orders

Show orders that need to be verified by nursing. Nursing can verify order on the MAR and in RPMS electronically. They also can choose to verify them through EHR instead of RPMS.

cgMAR Script

Unit Dose Reports Menu

Through these options you can print MAR sheets, Action Profiles for discharges, post-op renewals, or patient transfers. Nursing can also print the Medications Due Worksheet for their own use in place of handwriting a med due list or carrying the MAR sheet into a patient's room.

```
Select Pharmacy Main Menu Option: UDM  Unit Dose Medications

(Inpatient Medications - Version 5.0  11/13/04)

ALUD  Align Labels (Unit Dose)
DAPO  Discontinue All of a Patient's Orders
EUP   Edit Inpatient User Parameters
ESD   Edit Patient's Default Stop Date
HAPO  Hold All of a Patient's Orders
IOE   Inpatient Order Entry
IPF   Inpatient Profile
INQ   INquiries Menu ...
LPUD  Label Print/Reprint
NV    Non-Verified/Pending Orders
OE    Order Entry
PICK  Pick List Menu ...
PPUD  PATient Profile (Unit Dose)
REPM  Reports Menu ...
SUPM  Supervisor's Menu ...

Select Unit Dose Medications Option: REP  Reports Menu
7     7 Day MAR
14    14 Day MAR (discussed previously)
24    24 Hour MAR
AADS  Authorized Absence/Discharge Summary
AP1   Action Profile #1
AP2   Action Profile #2
EUDR  Extra Units Dispensed Report
FREE  Free Text Dosage Report
ISON  INpatient Stop Order Notices
MD    Medications Due Worksheet
PP    Patient Profile (Extended)
```

Action Profile 1

```
Select Reports Menu Option: AP1  Action Profile #1
Select by WARD GROUP (G), WARD (W), or PATIENT (P): Patient
Select PATIENT: ABC, PATIENT

ABC, PATIENT                                F 08-18-1920 XXX-XX-1584  PIMC XXXXX

Select another PATIENT:
Enter medication type(s): 1// <Enter>
...this may take a few minutes...(you should QUEUE this report)...

Select PRINT DEVICE:
```

Enter network printer name (or queue to printer name).

cgMAR Script

```

UNIT DOSE ACTION PROFILE #1          09/11/2000  11:01
WHOEVER YOU WANT IT TO BE HEALTHCARE SYSTEMS
                                                    Page: 1
-----
This form is to be used to REVIEW/RENEW/CANCEL existing active medication
orders for inpatients. Review the active orders listed and beside each order
circle one of the following:
      R - to RENEW the order
      D - to DISCONTINUE the order
      N - to take NO ACTION (the order will remain
           active until the stop date indicated)

A new order must be written for any new medication or to make any changes
in dosage or directions on an existing order.
-----
ABC, PATIENT                               Ward: 1 EAST
PID: 9111                               Room-Bed: B-12      Ht(cm):      (      )
DOB: 08/18/1920 (80)                    Wt(kg):      (      )
Sex: MALE                                Admitted: 05/03/2000
Dx: TESTING
Allergies: No Allergy Assessment
ADR:
-----
No. Action      Drug      A C T I V E      ST Start Stop  Status/Info
-----
1  R D N AMPICILLIN 1 GM
   in 0.9% NAACL 100 ML QID
   Special Instructions: THIS IS AN INPATIENT IV EXAMPLE
   C 09/07 09/14 A
2  R D N AMPICILLIN CAP INJ
   Give: 250MG PO QID
   C 09/07 09/21 A
3  R D N HYDROCORTISONE CREAM, TOP
   Give: 1% TOP QD
   C 09/07 09/21 A
4  R D N MULTIVITAMINS 5 ML
   in 0.9% NAACL 1000 ML 20 ml/hr
   C 09/07 09/12 A
5  R D N PROPRANOLOL 10MG U/D
   Give: PO QD
   C 09/07 09/21 A
-----
Date AND Time      PHYSICIAN'S SIGNATURE
-----
MULTIDISCIPLINARY REVIEW
(WHEN APPROPRIATE)
PHARMACIST'S SIGNATURE
-----
NURSE'S SIGNATURE
-----
ADDITIONAL MEDICATION ORDERS:
-----
Date AND Time      PHYSICIAN'S SIGNATURE
-----

```

Figure 5: Action Profile 1

Medications Due Worksheet

```

Select Reports Menu Option: MD Medications Due Worksheet
Would you like to include PRN Medications (Y/N)? NO// <Enter>
Enter Start Date and Time: T@1000 (JUL 03, 2009@10:00)
Enter Ending Date and Time: T@2400 (JUL 03, 2009@24:00)
Select by WARD GROUP (G), WARD (W), or PATIENT (P): Patient
Select PATIENT: XYZ, PATIENT
                XYZ, PATIENT                F 09-19-1979 XXX-XX-1584 PIMC XXXXXX
Select another PATIENT: <Enter>
Enter medication type(s): 1// <Enter>
Select output device:

```

cgMAR Script

Enter network printer name (or queue to printer name).

```
MEDICATIONS DUE WORKSHEET For: XYZ,PATIENT Page: 1
Report from: 09/19/00 10:00 to: 09/19/00 24:00 Report Date:
09/19/00
Continuous/One time Orders for: ALL MEDS

For date: 09/19/00

XYZ,PATIENT A-6 12:00 09/18 | 09/18 12:00 | 09/22/00 22:00
4321 RANITIDINE TAB
1 West Give: 150MG PO QID
RN/LPN Init: _____

09/18 | 09/18 12:00 | 09/22/00 22:00
THEOPHYLLINE CAP,SA
Give: 400MG PO QID
TESTING
RN/LPN Init: _____

* 09/19 | 09/19 12:00 | 09/22/00 18:00
AMPICILLIN 100 GM
in
0.45% NAACL 1000 ML 8MG/HR
IV 8MG/HR@1
RN/LPN Init: _____

15:00 09/18 | 09/18 12:00 | 09/22/00 22:00
RANITIDINE TAB
Give: 150MG PO QID
RN/LPN Init: _____

09/18 | 09/18 12:00 | 09/22/00 22:00
THEOPHYLLINE CAP,SA
Give: 400MG PO QID
TESTING
RN/LPN Init: _____

20:00 09/18 | 09/18 12:00 | 09/22/00 22:00
RANITIDINE TAB
Give: 150MG PO QID
RN/LPN Init: _____

09/18 | 09/18 12:00 | 09/22/00 22:00
THEOPHYLLINE CAP,SA
Give: 400MG PO QID
TESTING
RN/LPN Init: _____

* Projected admin. times based on order's volume, flow rate, and start time.
Enter RETURN to continue or '^' to exit:
```

Figure 8-29: Example: Medications Due Worksheet (continued)

Figure 6: Medications Due Worksheet

Inpatient Stop Order Notices

In the following script, a report is generated that shows all medications that will expire between 0001 and 2400 tomorrow. This report is then used to notify providers they need to re-order meds or they will expire. My advice is to eliminate Automatic Stop Orders (except perhaps for a few selected meds) and this report will not be needed.

From Unit Dose Menu, Reports Option:

```
Select Reports Menu Option: Inpatient Stop Order Notices
Select by WARD GROUP (G), WARD (W), or PATIENT (P): WARD
Select WARD: ICU
```

cgMAR Script

```
Do you want to sort by Administration Team (Y/N)? NO// NO
Enter start date: T+1@0001 (JUL 13, 2009@00:01)
Enter stop date: T+1@2400 (JUL 13, 2009@24:00)
List IV orders, Unit Dose orders, or All orders: ALL// <Enter>
Select PRINT DEVICE:
```

Enter network printer.

```
AS OF: 09/19/00 13:14 Page: 1
```

THE FOLLOWING MEDICATIONS WILL EXPIRE
FROM 09/19/00 00:01 THROUGH 09/26/00 24:00
TO CONTINUE MEDICATIONS, PLEASE REORDER

XYZ, PATIENT Ward: 1 West
PID: 4321 Room-Bed: A-6 Ht (cm): 167.64 (04/21/99)
DOB: 02/22/42 (58) Wt (kg): 85.00 (04/21/99)
Sex: MALE Admitted: 09/16/99
Dx: TEST PATIENT
Allergies: CARAMEL, CN900, LOMEFLOXACIN, PENTAMIDINE, PENTAZOCINE, CHOCOLATE,
NUTS, STRAWBERRIES, DUST
NV Aller.: AMOXICILLIN, AMPICILLIN, TAPE, FISH, FLUPHENAZINE DECANOATE
ADR:

Medication Dosage	ST	Start	Stop	Status/Info Provider
AMPICILLIN 100 GM in 0.45% NAACL 1000 ML 8MG/HR MEDS, PROVIDER IV 8MG/HR@1	C	09/19	09/22/00 18:00 A	INPATIENT-
PENTAMIDINE ISETHIONATE 1 MG in 0.45% NAACL 1000 ML 8 MG/HR MEDS, PROVIDER IV 8 MG/HR@1	C	09/19	09/22/00 18:00 A	INPATIENT-
ACETAMINOPHEN 300/CODEINE 30 TAB Give: 650MG PO QD MEDS, PROVIDER	C	09/16	09/22/00 22:00 A	INPATIENT-
BENZOYL PEROXIDE GEL, TOP Give: APPLY SMALL ABOUT TOP QD MEDS, PROVIDER Special Instructions: TEST	C	09/19	09/22/00 22:00 A	INPATIENT-
RANITIDINE TAB Give: 150MG PO QID MEDS, PROVIDER	C	09/18	09/22/00 22:00 A	INPATIENT-

Figure 7: Inpatient Stop Order Notices

Difficult and Oddball Orders

Sliding Scale Insulin

1. Set up Standard Schedule(s) for sliding-scale insulin

```
Select Pharmacy Main Menu Option: PDM Pharmacy Data Management

    Dosages ...
    Drug Enter/Edit
    Drug Interaction Management ...
    Electrolyte File (IV)
    Lookup into Dispense Drug File
    Medication Instruction File Add/Edit
    Medication Route File Enter/Edit
    Orderable Item Management ...
    Orderable Item Report
    Formulary Information Report
    Drug Text Enter/Edit
    Drug Text File Report
    Pharmacy System Parameters Edit
    Standard Schedule Edit
    Synonym Enter/Edit
    Controlled Substances/PKI Reports ...

Select Pharmacy Data Management Option: STANDard Schedule Edit

Select ADMINISTRATION SCHEDULE: SSI-QID AC&HS
Are you adding 'SSI-QID AC&HS' as
a new ADMINISTRATION SCHEDULE (the 126TH)? No// YES (Yes)
NAME: SSI-QID AC&HS// <Enter>
OUTPATIENT EXPANSION: <Enter>
OTHER LANGUAGE EXPANSION: <Enter>
TYPE OF SCHEDULE: CONTINUOUS// <Enter> CONTINUOUS
STANDARD ADMINISTRATION TIMES: 0630-0631-0632-1130-1131-1132-1630-1631-1632-
2102
FREQUENCY (IN MINUTES): 1440//
Select WARD: <Enter>
```

That's it! Now you can use this schedule for order entry. Here are examples of some other Sliding Scale schedules that you may find useful:

```
Select ADMINISTRATION SCHEDULE: SSI
1 SSI-AC ONLY 0630-0631-0632-1130-1131-1132-1630-1631-1632
2 SSI-AM&1HR PC 0630-0631-0632-0900-0901-0902-1330-1331-1332-1830-
1831-1832
3 SSI-BID 0630-0631-0632-1630-1631-1632
4 SSI-Q4H 0100-0101-0102-0500-0501-0502-0900-0901-0902-1300-1301-
1302-1700-1701-1702-2100-2101-2102
5 SSI-Q6H 0300-0301-0302-0900-0901-0902-1500-1501-1502-2100-2101-
2102
6 SSI-QID & 0100 0100-0101-0102-0630-0631-0632-1130-1131-1132-
1630-1631-1632-2100-2101-2102
7 SSI-QID AC&HS 0630-0631-0632-1130-1131-1132-1630-1631-1632-2100-
2101-2102
```

cgMAR Script

2. Enter sliding scale insulin order

```
Select IV Menu Option: IOE Inpatient Order Entry

Select PATIENT: 42-1
STRIPER, CANDICE Ward: 4WE (OB)
HRN: XXXXX Room-Bed: 42-1 Ht(cm): 160.02
06/30/2009
DOB: 09/19/79 (29) Wt(kg): 82.05 06/30/2009
Sex: FEMALE Admitted: 07/03/09
Dx: TERM PREGNANCY/LABOR/RUPTURE Last transferred: *****

Allergies/Reactions: NKA
Inpatient Narrative:
Outpatient Narrative:

PU Patient Record Update NO New Order Entry
DA Detailed Allergy/ADR List IN Intervention Menu
VP View Profile
Select Action: View Profile// NO New Order Entry

Select DRUG: INSULIN, REGULAR
Lookup: SYNONYM
REGULAR HUMULIN INSULIN REGULAR U-100 (HUMAN) 10ML VIAL HS501 -
240148.9841 00002-8215-01 PHOENIX HOSP-IHS
...OK? Yes// <Enter> (Yes)

*** A WARD STOCK ITEM ***

Available Dosage(s)
1. 100UNT/1ML
2. 200UNT/2ML

Select from list of Available Dosages or Enter Free Text Dose: VARIABLE DOSE

You entered VARIABLE DOSE is this correct? Yes// <Enter> YES
UNITS PER DOSE: 1// <Enter>

WARNING: Dosage Ordered and Dispense Units do not match.
Please verify Dosage.
MED ROUTE: SUBCUTANEOUS// <Enter> SQ
SCHEDULE TYPE: FILL on REQUEST// <Enter> FILL on REQUEST
SCHEDULE: UD// SSI-
```

The name of each Sliding Scale Insulin schedule starts with “SSI-.”

```
1 SSI-AC ONLY 0630-0631-0632-1130-1131-1132-1630-1631-1632
2 SSI-AM&1HR PC 0630-0631-0632-0900-0901-0902-1330-1331-1332-1830-1831-
1832
3 SSI-BID 0630-0631-0632-1630-1631-1632
4 SSI-Q4H 0100-0101-0102-0500-0501-0502-0900-0901-0902-1300-1301-1302-
1700-1701-1702-2100-2101-2102
5 SSI-Q6H 0300-0301-0302-0900-0901-0902-1500-1501-1502-2100-2101-2102
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5:
6 SSI-QID & 0100 0100-0101-0102-0630-0631-0632-1130-1131-1132-
1630-1631-1632-2100-2101-2102
7 SSI-QID AC&HS 0630-0631-0632-1130-1131-1132-1630-1631-1632-2100-
2101-2102
CHOOSE 1-7: 7 0630-0631-0632-1130-1131-1132-1630-1631-1632-2100-2101-
2102
ADMIN TIMES: 0630-0631-0632-1130-1131-1132-1630-1631-1632-2100-2101-2102//
<Enter>
```

cgMAR Script

SPECIAL INSTRUCTIONS: (GLUCOSE - 150) / 10 = NUMBER OF UNITS

Sliding scale particulars are entered in the Special Instructions Field.

Would you like to flag the Special Instructions field for display in a BCMA Message box?

Select one of the following:

Y	Yes
N	No

Flag the Special Instructions (Yes/No): No

START DATE/TIME: JUL 3,2009@11:32// NOW (JUL 03, 2009@11:41)

STOP DATE/TIME: OCT 11,2009@15:00// <Enter> OCT 11,2009@15:00

PROVIDER: DOC, IMA//

The order is then displayed for review and Acceptance or further Editing:

1043320088Jul 03, 2009 11:41:39
ACTIVE UNIT DOSE Jul 03, 2009 11:41:39 Page: 1 of 2
POSITIVITY, ADA Ward: 4WE (OB
HRN: XXXXXX Room-Bed: 42-1 Ht(cm): 160.02 06/30/2009
DOB: 09/19/79 (29) Wt(kg): 82.05 06/30/2009

(1)Orderable Item: REGULAR INSULIN INJ

Instructions:

(2)Dosage Ordered: VARIABLE DOSE

(3)Start: 07/03/09 11:41

(4) Med Route: SUBCUTANEOUS

(5) Stop: 10/11/09 15:00

(6) Schedule Type: FILL on REQUEST

(8) Schedule: SSI-QID AC&HS

(9) Admin Times: 0630-0631-0632-1130-1131-1132-1630-1631-1632-2100-2101-210

(10) Provider: PROCTOR, DOCTOR DURATION:

(11) Special Instructions: (GLUCOSE - 150) / 10 = NUMBER OF UNITS

(12) Dispense Drug	U/D	Inactive Date
INSULIN REGULAR U-100 (HUMAN) 10ML VIAL	1	

+ Enter ?? for more actions

Jul 03, 2009 11:41:39

ED Edit

AC ACCEPT

Select Item(s): Next Screen// AC

cgMAR Script

3. MAR Representation of Sliding Scale Insulin Order

CONTINUOUS SHEET		7 DAY MAR		06/28/2009 through 07/04/2009							
SITE: PHOENIX INDIAN MED CTR (606601)											
Name: PATIENT, ANY			Ward: ICU PID: 46423			DOB: 08/20/1947 (61)			Weight (kg): 99.68 06/04/2009		
Room-Bed: ICU-1			Sex: MALE			Dx: PANCREATITIS/HYPERTENSION			Height (cm): 172.72 11/20/2008		
Admitted: 06/23/2009 17:00											
Allergies: SULFAMETHOXAZOLE ADR:											
Order	Start	Stop	Admin Times	06/28	06/29	06/30	07/01	07/02	07/03	07/04	notes
			0630								
06/23	06/23 16:32	10/01/09 15:00	0631								
	REGULAR INSULIN INJ	R	0632								
	Give: VARIABLE DOSE SQ		1130								
	QID SLIDING SCALE		1131								
	See next label for continuation		1132								
(BS-200)/10 = NUMBER OF UNITS			1630								
			1631								
			1632								
			2100								
			2101								
WS	RPH: MLM RN: AKM		2102								

Figure 8: 3. MAR Representation of Sliding Scale Insulin Order

Maintenance IV Fluids and Titrated IV Drips

Maintenance IV Fluids and IV Drips (Dopamine, Heparin, etc.) are entered into the IV Package as “Admixture”. You can enter the starting rate into the Administration Rate field, but most likely the rate will change. Another option is to enter “TITRATE@X” where X represents the number of labels that you predict will be needed for each 24 hour scheduled IV batch. On the label, the Administration Rate will show as “TITRATE”. In the OTHER PRINT INFO field, titration information can be entered.

From Menu Option Inpatient Order Entry, under a selected patient:

4	MAGNESIUM OXIDE TAB	C	07/09	10/17	A	WS
	Give: 400MG PO BID WITH MEALS					
5	MULTIVIT W/MINERALS & FA (PNV) TAB	C	07/06	10/14	A	WS
	Give: 1 TABLET PO QDAY					
	MAY GIVE IV OR PO					
	Enter ?? for more actions					
PI	Patient Information	SO	Select Order			
PU	Patient Record Update	NO	New Order Entry			
	Select Action: Next Screen// NO		New Order Entry			
	Select DRUG: <Enter>		(This return bypasses UD order entry)			
	Select IV TYPE: ADMIXTURE					
	Select ADDITIVE: DOPAMINE					
	** HIGH ALERT DRUG! **					

The units of strength for this additive are in MG.

Strength: 400 MG
BOTTLE: <Enter>
Select ADDITIVE: <Enter>
Select SOLUTION: D5W2 DEXTROSE 5% 250 ML
INFUSION RATE: TITRATE@3 3 Labels per day
at an infusion rate of: TITRATE
MED ROUTE: IV// <Enter>

cgMAR Script

```
OTHER PRINT INFO: START@5MCG/KG/MIN. TITRATE TO KEEP SBP > 90 MM HG.
```

(Limit is 60 characters - This will print on both the IV labels and the MAR)

```
Would you like to flag the Other Print Info field for display in a BCMA
Message box?
  Select one of the following:
      Y           Yes
      N           No
Flag the Other Print Info (Yes/No): No
START DATE/TIME: JUL 12,2009@12:30// T@1300
STOP DATE/TIME: AUG 11,2009@12:59// <Enter>
PROVIDER: VIST, INTENSE// <Enter>
```

The program will then show how the label will appear so you can review it or edit it before accepting:

```
Med Route: IV
7186
[7]32936 ICU 07/12/09
DOPAMINE 400 MG
DEXTROSE 5% 250 ML

Dose due at: _____
TITRATE
START@5MCG/KG/MIN. TITRATE TO KEEP SBP >
 90 MM HG.
** HIGH ALERT DRUG! **
BEYOND USE DATE:
1[1]

Start date: JUL 12,2009 13:00 Stop date: AUG 11,2009 12:59

Is this O.K.: YES// <Enter>
```

The program will then print three labels with administration Due Times spaced eight hours apart; i.e., since 1300 is entered as start time, the labels will show Due Times of 1300, 2100, and 0500 (or it will print however many labels are needed until the next defined 24 hour batch cycle is to begin). However, the MAR Admixtures always print with no scheduled administration times.