

How to set up CAREWare 4 for use in International Settings

Plus Pharmacy Module

June 2006

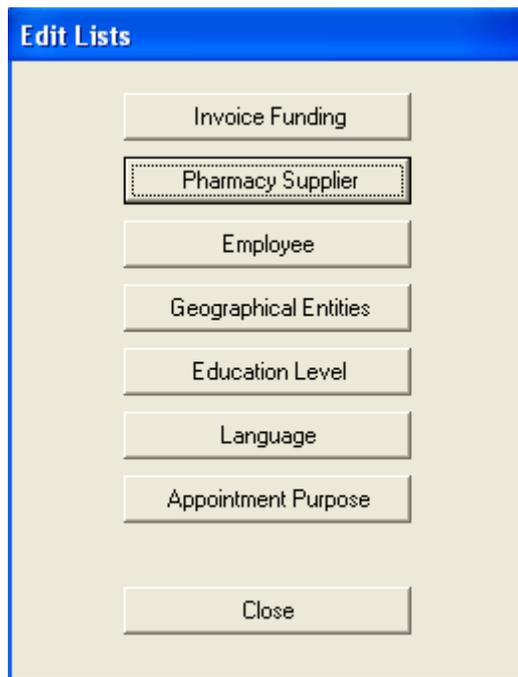
Introduction: International version of CAREWare:

To accommodate use in international HIV treatment settings, specific screens have been modified and functions have been added to version 4i of CAREWare. Changes have been made to the Demographic and Annual Review tabs; a Pharmacy module and visit scheduler have also been added. An ICD-10 diagnosis file replaces the ICD9-CM list.

Note: Before you begin customizing, you may need to check that the version of CAREWare is set to International in the BusinessTier.

To begin using the international version, customization of a few specific fields is recommended.

- To access the international custom field list, press 'Ctrl + E' on your keyboard. You'll see this screen:



- For the **Pharmacy** module, you'll need to set values for *Invoice Funding* and *Pharmacy Supplier*
- The **Employee** field is used in the Prescribing module
- The fields 'Geographical Entities,' (e.g. Country, Province, District, Village), 'Education Level' and 'Language' are all found on the client Demographic screen.
- '**Appointment Purpose**' is used in the Scheduler.

Customizing lists in CAREWare is easy to do, and the process is the same for most all fields except for the '**Geographical Entities.**' Here we'll demonstrate customization of the Geographical Entities, which allows the user to create a set of relational fields from country down to village (or any designation).

To begin:

- Select 'Geographical Entities'
- When the screen below appears, click **New** on the bottom left. The '**List Name**' field at the top defaults to 'Country'. We could change this to any name we want,

but we'll leave it here as *country* and under the 'Item' field will enter the country name—in this example Uganda—and check 'Active.'

Country

Close

List Name:
Country

Add/Edit

Item:
Uganda

Active

Save

Cancel

Item:	Active:
Vietnam	Yes

New Edit Delete Province

- Now click Save.
- Our new country Uganda will appear in the list box below.
- Now we want to create geographical locations within the country. Note that the button on the bottom right is labeled 'Province.' Let's say there are 3 provinces in Uganda. To create them, first highlight **Country** (or first level designation), and then click 'Province.'

Item:	Active:
Uganda	Yes
Vietnam	Yes

New Edit Delete Province

- The screen below will appear. Now note that the List Name field is 'Province' and to the right it indicates 'For Country' Uganda, showing that the provinces we are about to add are within this country. Again, we could change the designation Province to anything else.

- To add a province, click **New**. The Item field will be activated. Enter your first Province Name, and set it to Active. Here we have entered 'Northern.'
- Click Save and repeat these steps until you have entered all the geographic locations at this level.

The screenshot shows a dialog box titled "Province". It has a "Close" button in the top right. Below it are two input fields: "List Name:" with the text "Province" and "For Country:" with the text "Uganda". Underneath is a section labeled "Add/Edit" which contains an "Item:" input field with the text "Northern", a checked "Active" checkbox, and "Save" and "Cancel" buttons.

- We've added two *Provinces* in this example. Now note that the button on the bottom right has now been relabeled ('Health D...', short for Health District, which we had entered previously.); CAREWare is ready to create the next level of geographic locations under each Province.

The screenshot shows a list view with two columns: "Item:" and "Active:". The list contains two entries: "Northern" with "Yes" and "Southern" with "Yes". Below the list is a horizontal scrollbar and four buttons: "New", "Edit", "Delete", and "Health D...".

Item:	Active:
Northern	Yes
Southern	Yes

- Let's first create names for *Health Districts* within the Northern Province. Highlight 'Northern' then select the button labeled 'Health D'.
- Repeat the process above by selecting New item. Enter any designations here.
- To create Health Districts in the Southern Province, we would need to highlight Southern and repeat the above steps.
- There is one more level of related Geographic entities that we can add under the last level created, Health Districts. The process is exactly as we did for the others.
- In the end we have created a set of geographic relations that will ensure that if Level 1 is entered, only specific choices for Level 2 related to Level 1 will be available for entry, and so on down to Level 4: Country<Province<Health District<Village.

Pharmacy Module

Background: The pharmacy module in CAREWare allows users to track prescriptions and produce invoices for all medication dispensing. Easy-to-generate reports include:

- Patient-specific prescriptions and costs;
- Lists of clients who did not pick up a prescription on a designated date or those who are due to pick one up or whose prescriptions are overdue for renewal.
- Aggregate, clinic summary reports that list the quantity of each drug that has been dispensed and the amount remaining in stock. These figures can be used for important inventory tasks and determining when drug stocks might require refilling.

How to use the module

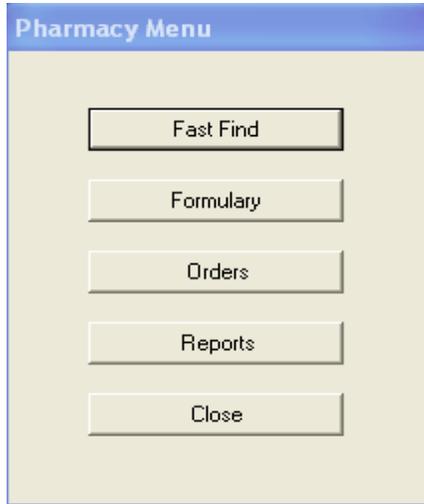
1. Setup for the Pharmacy Module and Formulary begins with **Medications Setup**: You must first activate medications before they can be added to the Formulary and prescribed. To activate medications:

- Select: Administrative Options on main screen
- Select: Clinical Encounter Setup
- Select: Medications Setup.
- Click the 'Advanced options' button to access the full medications database that will appear on the left of the screen.
- Within medications you can activate any drugs on the list and customize the generic name if desired. (See the main user manual for further details.)

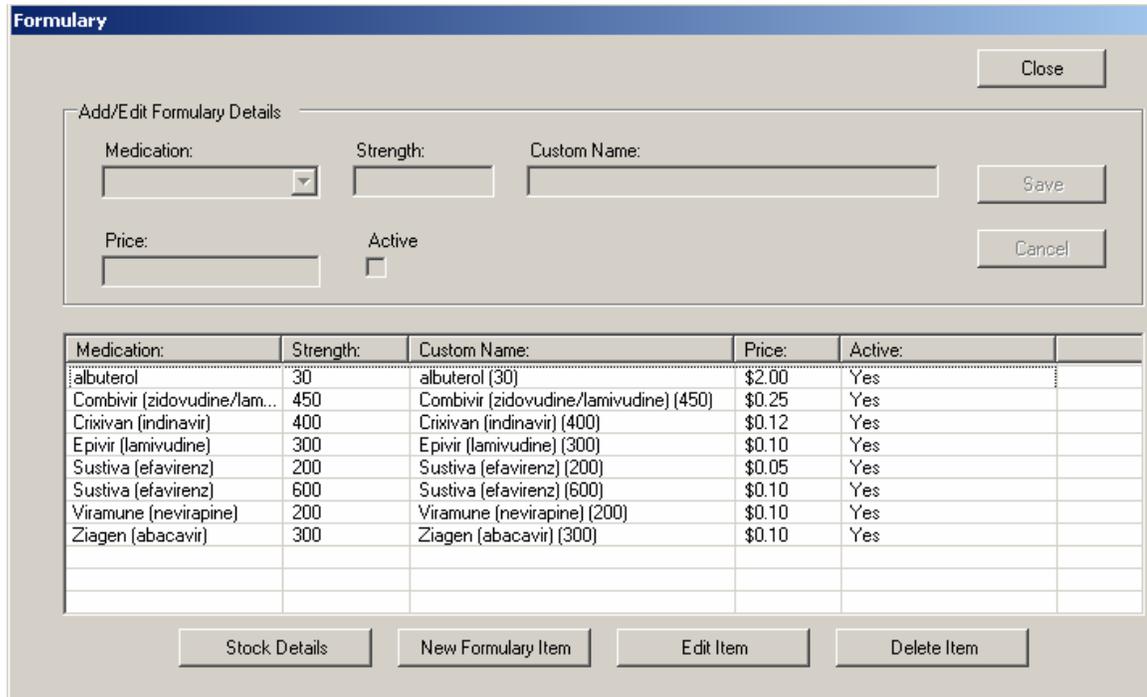
▶ Note: If you don't first activate a medication, then that drug will not be available in the Formulary setup module. In addition, the combination of a medication name and its strength (typically in mg) are required for a prescription entry in the medications module to match an entry in the Formulary. If these don't match, then a specific combination won't be listed in the Formulary.

2. Formulary Setup

Return to the main menu and select the 'Pharmacy' button to obtain this menu:



- Click 'Formulary' ; A screen like the following will appear (this example is already populated with some medications-initially it would be blank.)



Medication:	Strength:	Custom Name:	Price:	Active:
albuterol	30	albuterol (30)	\$2.00	Yes
Combivir (zidovudine/lam...	450	Combivir (zidovudine/lamivudine) (450)	\$0.25	Yes
Crixivan (indinavir)	400	Crixivan (indinavir) (400)	\$0.12	Yes
Epivir (lamivudine)	300	Epivir (lamivudine) (300)	\$0.10	Yes
Sustiva (efavirenz)	200	Sustiva (efavirenz) (200)	\$0.05	Yes
Sustiva (efavirenz)	600	Sustiva (efavirenz) (600)	\$0.10	Yes
Viramune (nevirapine)	200	Viramune (nevirapine) (200)	\$0.10	Yes
Ziagen (abacavir)	300	Ziagen (abacavir) (300)	\$0.10	Yes

- Medication entries in the **Formulary** are defined by the medication name *and* the according strength. It is very likely that your formulary will contain the same medication with different strengths available. In the above screen, Sustiva (efavirenz) is listed twice, once as a 600 mg formulation, and another as 200 mg. The unit price (column 4) will likely differ.

- To add a new item to the formulary, simply click 'New Formulary Item.' This will enable the fields above, and your list of Active Medications will be available in the Medication dropdown list. Add the strength, unit price (per pill), and check the 'Active' box. Click Save, and repeat as necessary.
- Inventory/stock details can be entered here for each drug as well. Highlight a medication and then click the 'Stock Details' button. You'll see a screen like this:

Stock Details

Combivir (zidovudine/lamivudine) (450) Close

In Stock: On Order: Dispensed:

Add Adjustment

Date: Amount*: Reason: Add

*Negative Numbers Represent Lost Stock

Adjustments

Date:	Quantity:	Reason:	User:
12/01/05	10000	New shipment	CWTEMP

- Click 'Add' on the right.
- Enter the date of the stock adjustment, and the amount adjusted. Note that stock levels for each medication can first be established through the **Orders** module accessed on the Pharmacy menu.
- Here we have added 10,000 units of Combivir to the stock on Dec. 1, 2005 and supplied the reason. All 3 fields are required here to adjust the stock.
- Note as well that the user who made these changes is automatically recorded for your records and serves as an audit trail.

Orders

Let's look at how the stock level of a specific medication could have first been set by accessing the pharmacy Orders module.

Find/Add Order

Close

1. New Order Record

Add New Order

2. Find by Order Number

Find Order

3. Find by Order Date

From: Through:

Order Number:	Order Date:	Rec'd:
00000001	8/8/2005	Yes

Edit Selected Order

- On this screen we can either *Add a New Order* or retrieve an existing one. Here we're going to pull up Order number 1 created on 8/8/2005.

Order

Order Date: 8/8/2005 Order Number: 00000001 Supplier: The Global Fund Payment Type: Purchase

Invoice Number: 101 Received Date Received: 8/30/2005 Receiving User: CWTEMP

Buttons: Report Order, Save Order, Delete Order, Close Form

Add/Edit Order Item Details

Drug: Quantity: Price: Total: Batch:

Expiry:

Drug:	Quantity:	Price:	Total:	Batch:	Expiry:
Sustiva (efavire...	25000	\$0.05	\$1,250.00	A500	8/30/2006

Buttons: Save, Cancel, New Order Item, Edit Order Item, Delete Order Item

- First select 'New Order Item' on the bottom left of the screen; this will enable the top-half of the screen.
- Enter the Order Date, Supplier, and Payment Type. The Order number is auto-calculated and increments by one each time an order is added. The field 'Payment Type' has the following response categories: Purchase, Donation, Cons., Bonus, NTLP, Returns in, Compensation.
- Values for the 'Supplier' field must be added by the Administrator in the international custom field setup screen (see above for customizing this field.)
- Click 'Save Order' in top right. That will enable the Add/Edit Order item Details in the lower half of this screen.
- In the order details section, enter the drug name (the pulldown list will taken directly from the formulary), quantity ordered, unit price (the price from the Formulary entry will be used here, but can be altered as well), the Batch number and Expiry date.

Now that we've setup the Formulary and Stock, let's go to a specific client and use the pharmacy module to track prescriptions and dispensing.

The Pharmacy tab is on the far right and may require clicking the right arrow to reveal the tab, as in this screen:

Client Information
BLOWFISH, CHRISTINA

Change Log | Client Report | Delete Client | Find List | New Search | Close

Encounters | Referrals | HIV C&T | Pregnancy | Relations | Custom Tab 1 | Custom Tab 2 | Custom Tab 3 | Custom Subform | Pharmacy | Scheduler

First Name: CHRISTINA | Middle Name: | Latest HIV Status: HIV-positive (not AIDS) | Confirmed HIV+ at: | HIV Care Entry Pt: |
 Last Name: BLOWFISH | Date of Birth: 9/20/1979 | ART Eligible*: 12/1/2005 | Ready: | Selected: | Started: 2/22/1999 | Stopped: |
 Gender: Female | Client URN: CRB00920792U | Encrypted URN: m8d+qzQAZ | *ART Eligible By: CD4 WHO Stage | HIV Subtype: Type I Type II |
 Languages: | Education Level: |

Client ID: 460 | Address: | City: | Memo: | Case Notes |
 Country: Vietnam | Province: North | Health District: Hunang | Village: Quietville |
 Postal Code: 48842 | Phone Number: | Include on label report:

On the pharmacy screen, click 'Add Prescription';

- The Prescription # will auto-populate and increase by one
- Enter the Date of the Prescription and the prescribing clinician (this value is taken from the customizable Employee field-see above).
- Click save

Client Information
BLOWFISH, CHRISTINA

Change Log | Client Report | Delete Client | Find List | New Search | Close

Encounters | Referrals | HIV C&T | Pregnancy | Relations | Custom Tab 1 | Custom Tab 2 | Custom Tab 3 | Custom Subform | Pharmacy | Scheduler

Last Name: BLOWFISH | First Name: CHRISTINA | MI: |

Add/Edit Prescription:
 Prescription #: | Date: | Clinician: | Save | Cancel |

Prescription #:	Date:	Clinician:	Drugs:
0000001	11/1/2005	Ronald McDonald	AZT+3TC, EFV

Prescription Details | Invoice/Dispense | Add Prescription | Edit | Delete

- Now click 'Prescription Details' in the bottom left. (Click 'Edit' to change a previous entry.); the following screen will appear.

Prescription

Client: Blowfish, Christina Medications Report Close

Prescription: Date: 11/01/05 Prescription #: 0000001 Clinician: Ronald

Add/Edit Drug

Drug/Strength/Frequency: Duration*: Refills: Stop Date: Save

Combivir (zidovudine/lamivudine)/450/bid Prescribed: Dispensed: (*max days per filling) Cancel

Efavirenz/600/qd

Zithromax/100/qd (Not In Formulary)

Drug/Strength/Frequency:	Duration:	Refills:	Stop Date:	Prescribed:	Dispensed:
Combivir (zidovudine/lamivudine)/450/...	60	3	06/29/06	480	114
Efavirenz/600/qd	30	2	04/01/06	90	90

Add Drug Invoice/Dispense Edit Delete

- Under the **'Drug/Strength/Frequency'** field click the down arrow. Any combinations that have been entered in the Medications module will be available here. You can review or edit the prescribed entries by clicking the **'Medications'** button at the top.
- This client has been prescribed 3 medications. Note that the entry for Zithromax (azithromycin), 100 mg qd (one pill a day) is indicated as *Not in Formulary*. To track the dispensing of this medication and strength combination, we would need to return to the Formulary and add it to the list with this specific strength (100 mg).
- After selecting the Drug/Strength/Frequency, enter the **Duration** of the prescription in days and the number of **Refills**. For the ARV Combivir (zidovudine/lamivudine/450 mg/bid), we've entered 60 days and 3 refills.
- Based on the prescription Start Date, duration, and number of refills, CAREWare will calculate the **Stop Date**, the date when this prescription ends. In the example above, the prescription duration for Combivir is 60 days and there are 3 refills; that would equal a total of 240 days or approximately 8 months; starting on 11/1/05, that would make the Stop date 6/29/2006.
- The total number of pills prescribed, 480, is also automatically calculated, and is the product of the number pills taken per day (in this example it's two (bid), the duration of the prescription (60) and the number of refills (3)—that is, 2 pills a day, or 60 pills a month for 8 months.

- Of course, the total number prescribed will likely differ from the number actually dispensed to the patient at a given visit. For example, as shown here, the client has been dispensed 114 out of 240 pills. The remaining pills will be dispensed when the client returns for his/her refills, and perhaps after adherence has been evaluated in this individual after the first 30 days of taking a medication. Details of dispensing and invoicing are outlined below.
- Click Save; also click on the Report button on the top right to generate a formal report of this prescription, as in this screen:

<u>Prescription:</u>						
Client:	Blowfish, Christina	Date:	11/01/05			
Unique ID:	99099	Number:	0000001			
Client ID:	460	Clinician:	Ronald McDonald			
Drug/Strength/Frequency:	Duration:	Refills:	Stop Date:	Prescribed:	Dispensed:	Comment:
Combivir (zidovudine/lamivudine)/450/bid	60	3	06/29/2006	480	114	Take with lots of food
Efavirenz/600/qd	30	2	04/01/2006	90	90	

The clinician is now done entering the initial prescription data.

The next steps are to be completed by Pharmacy personnel.

Dispensing and invoicing

Note: If the prescribing clinician has not entered the above information directly into CAREWare, it is assumed that the patient will provide this information to the Pharmacist on a prescription paper form.

- The pharmacist should retrieve the correct patient record and go to the client's pharmacy tab.
- Highlight the Prescription of interest and then Select '**Invoice/dispense**' ; this screen will appear. We have been taken to Prescription #1.

Invoicing/Dispensing

Client:

Date: Prescription #: Clinician:

Add/Edit

Invoice Date: Invoice #: Funding: Dispensing Employee: Total:

Invoice Date:	Invoice #:	Funding:	Dispense Employee:	Total:	Drugs:
05/30/06	0000009	PEPFAR	Ronald McDonald	\$16.50	EFV, AZT+3TC
12/02/05	0000003	The Global Fund	Samuel Spade	\$1.50	EFV
11/01/05	0000002	PEPFAR	Ronald McDonald	\$16.50	EFV, AZT+3TC

Click 'ADD Invoice.'

1. Add the Invoice Date. CAREWare will automatically add the Invoice #.
2. Add the funding source for this prescription and the Dispensing Employee.
3. Click Save (or cancel).
4. With your mouse, highlight the Invoice number just created and select **'Dispensing Details' in the lower left.**
5. In the Dispensing Details screen (below), enter the Quantity of drug dispensed. In the screen here, we have dispensed 60 combivir pills and 30 efavirenz.
6. Note that by selecting the **Add all from Prescription** button in the bottom left, you can populate this section at once with all drugs that the client has been prescribed.
7. Note that the number of pills dispensed cannot exceed the amount established in the prescription.

Dispensing Details

Client:

Invoice #: Prescription #: Running Total:

Add/Edit

Drug: Quantity: Unit Price: Total:

Drug:	Quantity:	Unit Price:	Total:
Combivir (zidovudine/lamivudi...	60	\$0.25	\$15.00
Sustiva (efavirenz) (600)	30	\$0.05	\$1.50

At any time, press the **Report** button on the top right of this screen to obtain an easy-to-print *Dispensing/Invoice report*. For example, from the above screen we get this report:

Pharmacy Invoice:

Client ID: 460 Invoice #: 0000002
 Client Name: BLOWFISH, CHRISTINA Invoice Date: 11/1/2005
 URN: CRB00920792U Funding: PEPFAR
 Gender: Female Prescrip. #: 0000001

Drug:	Comment:	Quantity:	Unit Price:	Total:
Combivir (zidovudine/lamivudine) (450)		60	\$0.25	\$15.00
Sustiva (efavirenz) (600)		30	\$0.05	\$1.50
Grand Total:				\$16.50

Of course, each time the patient comes in for a refill, the pharmacist will return to this section, updating the invoice with the date and number of medications dispensed.

Here we've added another invoice on 12/2 and dispensed 30 more units of efavirenz:

Invoice Date:	Invoice #:	Funding:	Dispense Employee:	Total:	Drugs:
12/2/2005	0000003	The Global Fund	Samuel Spade	\$1.50	EFV
11/1/2005	0000002	PEPFAR	Ronald McDonald	\$16.50	EFV, AZT+3TC

As medications are added or switched, doses are changed, and different clinical conditions develop, multiple prescriptions will be necessary for each patient over the course of their therapy for their antiretrovirals and preventive medications such as cotrimoxazole (Bactrim),.

Add/Edit

Invoice Date:	Invoice #:	Funding:	Dispensing Employee:	Total:	
<input type="text" value="05/30/06"/>	<input type="text" value="0000009"/>	<input type="text" value="PEPFAR"/>	<input type="text" value="Ronald McDonald"/>	<input type="text" value="\$16.50"/>	<input type="button" value="Save"/> <input type="button" value="Cancel"/>

Invoice Date:	Invoice #:	Funding:	Dispense Employee:	Total:	Drugs:
05/30/06	0000009	PEPFAR	Ronald McDonald	\$16.50	EFV, AZT+3TC
12/02/05	0000003	The Global Fund	Samuel Spade	\$1.50	EFV
11/01/05	0000002	PEPFAR	Ronald McDonald	\$16.50	EFV, AZT+3TC

We've added one more dispensing/invoice on 5/30/06, and the resulting Prescription summary report for this client looks like this:

Prescription Summary:

Client:	Blowfish, Christina	Date:	11/01/05
Unique ID:	99099	Number:	0000001
Client ID:	460	Clinician:	Ronald McDonald

Drug/Strength/Frequency:	Prescribed	Dispensed	Price:
Combivir (zidovudine/zalcitabine)/450/bid	480	120	\$30.00
Efavirenz/600/qd	90	90	\$4.50

Pharmacy Reports

Three major Pharmacy Reports are available: Adherence, Aggregate, and Inventory. To access them, select Pharmacy on the main screen, then Reports.

1. Adherence Report screen:

The screenshot shows a dialog box titled "Pharmacy Adherence Report". It contains several controls for configuring the report:

- Report Type:** Two radio buttons are present: "Expired Prescriptions" and "Need Refills".
- Expiration As Of:** A dropdown menu.
- Sort Order:** A dropdown menu.
- Days Expired:** A range selector with "From:" and "Through:" labels. The "From:" field contains "0" and the "Through:" field contains "100".
- Select Medications to Report:** A list box with a header "Prescribed Medications (Drug/Strength/Frequency)". The list contains:
 - Agenerase (amprenavir)/125/qd
 - Combivir (zidovudine/lamivudine)/125/tid
 - Combivir (zidovudine/lamivudine)/450/bid
 - Efavirenz/600/qd
- Buttons:** "Select All", "Clear", "Run", and "Close".

- Two Reports are available here: Expired prescriptions or patients who, based on their dispensing history, need refills. Either report is calculated relative to a specific Expiration date which is set in the top right. Typically this would be set to today's date.
- Days Expired: Indicate how long the prescription or refill has expired. The default is 0 to 100 days. Setting this range will limit any prescriptions that have lagged for a particularly long time.
- Sort order: Reports can be sorted by Client Name, Medication, or Expiry days.
- Finally, Select one, All, or any group of medications. Hold down the control key if you want to select medications that are not next to one another on the list.

Here's an example of a (very short) Adherence report listing **Expired Prescriptions (from 0 to 1000 days)**.

<u>Pharmacy Adherence - Expired Prescriptions:</u>				
Expiration As Of Date: 06/21/06				
Name:	Unique ID:	Medication:	Expire Date:	Days Expired:
Christina Blowfish	99099	Efavirenz/600/qd	04/01/2006	81
Julius Cesar	JLCS0912851U	Combivir (zidovudine/lamivudine)/450/bid	04/30/2006	52
Julius Cesar	JLCS0912851U	Efavirenz/600/qd	09/29/2005	265
Robert Doe	BBDE0212711U	Agenerase (amprenavir)/125/tid	04/01/2006	81
Robert Doe	BBDE0212711U	Combivir (zidovudine/lamivudine)/450/bid	04/01/2006	81
Robert Doe	BBDE0212711U	Efavirenz/600/qd	04/01/2006	81
THOMAS BAIRD	123411	Combivir (zidovudine/lamivudine)/125/tid	01/31/2006	141

Now let's try an **Expired Refills** report:

<u>Pharmacy Adherence - Need Refills:</u>				
Expiration As Of Date: 06/21/06				
Name:	Unique ID:	Medication:	Expected Refill Date:	Days Expired:
Julius Cesar	JLCS0912851U	Combivir (zidovudine/lamivudine)/450/bid	04/30/2006	52
Julius Cesar	JLCS0912851U	Efavirenz/600/qd	09/29/2005	265
Robert Doe	BBDE0212711U	Agenerase (amprenavir)/125/tid	03/03/2006	110
Robert Doe	BBDE0212711U	Combivir (zidovudine/lamivudine)/450/bid	03/03/2006	110
Robert Doe	BBDE0212711U	Efavirenz/600/qd	04/01/2006	81
THOMAS BAIRD	123411	Combivir (zidovudine/lamivudine)/125/tid	10/03/2005	261

NOTE: We can see for the client Doe that the prescription for Combivir expired on 4/1/2006 but the Refill lapsed on 3/3/2006, indicating that he had not filled that entire prescription; similarly for the client Baird.

Pharmacy Aggregate: Now let's return to the main Pharmacy reports menu and run an Aggregate report. Here we can obtain a list of how many clients have received each medication in the designated time period, the amount dispensed, and the total cost.

Pharmacy Aggregate:

From Date: 01/01/06

Through Date: 06/21/06

Drug:	Unduplicated Clients:	Dispense Quantity:	Dispense Total:
Agenerase (amprenavir) (125)	1	1036	\$203.90
amoxicillin (as trihydrate) (200)	0	1006	\$197.90
Combivir (zidovudine/lamivudine) (450)	3	1006	\$197.90
Sustiva (efavirenz) (600)	3	268	\$13.40
Grand Total:	3	3316	\$613.10

And the Pharmacy Activity Report shows the following entries for date range selected:

Pharmacy Activity:

From Date:
01/01/06

Through Date:
06/21/06

Active Only

Drug:	Summary:		Activity for all dates:			
	Stock:	On Order:	Dispensed:	Received:	Ordered:	Adjustment:
Agenerase (amprenavir) (125)	-30	0	30	0	0	0
amoxicillin (as trihydrate) (200)	960	0	40	0	0	1000
Combivir (zidovudine/lamivudine) (450)	-294	0	294	0	0	0
Crixivan (indinavir) (400)	0	0	0	0	0	0
EpiVir (lamivudine) (300)	0	0	0	0	0	0
isoniazid (200)	3000	0	0	0	0	3000
Sustiva (efavirenz) (300)	0	12000	0	0	12000	0
Sustiva (efavirenz) (600)	-89	0	89	0	0	0
trimethoprim sulfate (100)	0	0	0	0	0	0
Trizivir (abacavir/lamivudine/retrovir) (750)	0	0	0	0	0	0
Viramune (nevirapine) (200)	0	0	0	0	0	0
Ziagen (abacavir) (300)	0	0	0	0	0	0