



MINISTRY OF MEDICAL SERVICES
MINISTRY OF PUBLIC HEALTH AND SANITATION

Managing ART Pharmaceutical Commodities using Zcore-DAR

SOFTWARE RELEASE NOTES – VERSION 1.1s



27 MARCH 2011



MINISTRY OF MEDICAL SERVICES
MINISTRY OF PUBLIC HEALTH AND SANITATION

Managing ART Pharmaceutical Commodities using Zcore-DAR

SOFTWARE RELEASE NOTES – VERSION 1.1s

27 MARCH 2011

HIV/AIDS is one of Kenya's most pressing health concerns and offering Antiretroviral Treatment ART is a key component of the government's strategy to reduce HIV/AIDS-related morbidity and mortality. However, health care workers in resource limited settings face serious challenges in the management of pharmaceutical and patient records. The Nairobi Provincial Medical Office, in collaboration with Qualcomm's Wireless Reach™ initiative, Telkom Kenya, Communications Commission of Kenya, Axesstel, Dell, RTI International have implemented a project to reduce the administrative burden on healthcare workers and improve patient care by strengthening pharmaceutical management systems for ART utilizing 3G technology.

The Zcore-DAR free and open source software developed by the project automates the manual reporting system and facilitates quick and easy transmission of the newly converted electronic reports via the Telkom Kenya 3G network. For more information about the Zcore-DAR software, please visit www.ictedge.org.

Managing ART Pharmaceutical Commodities using Zcore-DAR: Software
Release Notes by Ministry of Medical Services and Ministry of Public
Health and Sanitation, Government of Kenya is licensed under a Creative
Commons Attribution 3.0 Share-alike License



Contents

Introduction 1

General..... 1

Security 1

Patient Registration and Identification 1

Patient Status..... 2

Appointments 2

Dispensing..... 3

Stock Control..... 5

Stock Alerts 5

Health..... 6

ART Regimen 6

Reports..... 6

Daily Activity Report 7

Appointments Register 7

Defaulters Register 7

Combined Monthly Report for CDRR/ARV's 7

Configuration 7

Help..... 8

Known Issues..... 8

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction

The following listing describes changes to the DAR application that are included in Dar 1.1s. The "DAR Data Client Admin Guide.pdf" has been updated to reflect these changes.

General

1. All dates are displayed using the same date format, even when editing dates.
2. In most text fields, such as when entering notes into a patient record, the software accepts an unlimited amount of text. In other text fields, the software limits entries to a specified length, and will correctly truncate any text pasted from the Windows clipboard.
3. Field validation has been improved to improve data quality.
4. Numerous other bugs have been identified and corrected.
5. The system no longer permits the submission of a blank form in forms such as Dispensing or Health that do not have any required fields.

Security

6. The built-in software updating capability has been enhanced so that users may now download and install minor and major updates to the software, including updates to the structure of the database.
7. All patient records are now fully encrypted. Database backups are also encrypted.
8. User passwords are always masked (not displayed).

Patient Registration and Identification

9. The age of a patient listed on the home page is calculated based on the patient's birth date. If no birth date has been entered, then the age listed is the age entered in the patient's demographic record. If no age has been entered for the patient, then the patient's age category (adult or child) is shown.
10. When registering a new patient, the patient's age is calculated automatically based on the selected birth date. If the patient's birth date is not known, then the patient's age in years may be entered directly. The patient's age category (adult or child) will be set automatically. If the patient's age in years is not known, then the patient's age category may be selected manually.
11. The software now limits patient age to positive integers.
12. When registering a new patient, the software displays the "Entry point: Other" field only if the entry point selected for the patient is "Other (describe)"
13. The date on which the patient was registered is now displayed as "Date of Visit" when editing a patient's registration and identification record.

Patient Status

14. Patient Status is now shown in the status bar at the top of page. Clicking on Patient Status in the status bar will display the Patient Status form.

Client ID	Regimen	Patient Status
951786661	1A	Active

15. The default status of each patient is "Active."
16. The user should not be permitted to perform certain operations if the patient has died. If the status of a patient has been set to "Died," it is no longer possible to create new appointments, dispensing records, health records, or ART regimen records for the patient.

Staff	Patient	Client ID	Regimen	Patient Status
User, Admin	client7816 ,Aaa	951786661	1A	Died

Health Records								
Date of Visit	Weight	Height	WHO Screen	CD4 Count	BMI	TB status	OI Indications	Del.
07 Dec 09	50.0							X
05 Aug 09	50.0			705				X

17. Users are now required to select a "Type of change" to submit a status change record before submitting a change of status.
18. Patient status records are sorted with the most recent visit at the top.

Appointments

19. Users with accounts in the Clinic Medical Staff Group may now delete appointments from the appointment listing.
20. Appointments in the appointment records listing are now sorted with the most recent visit at the top.

Dispensing

21. The client's dispensing history is now displayed on the Dispensing page.

Dispensing

Create New Dispensing Record: Dispense stock to clients.

Past Stock Transactions

Date of Visit	Item	No. of Days	Quantity Dispensed
03 Aug 10	FDC's: Zidovudine/Lamivudine/Nevirapine (AZT/3TC/NVP) FDC (300/150/200mg)	30	60
03 Aug 10	Anti Bac.: Cotrimoxazole Tabs 480mg	30	60
29 Apr 10	FDC's: Zidovudine/Lamivudine/Nevirapine (AZT/3TC/NVP) FDC (300/150/200mg)	60	120
29 Apr 10	Anti Bac.: Cotrimoxazole Tabs 480mg	60	120
29 Apr 10	Others: Multivitamins	60	120
22 Feb 10	FDC's: Zidovudine/Lamivudine (AZT/3TC) FDC (300/150mg)	60	120
22 Feb 10	Single drugs: Nevirapine (NVP) 200mg	60	120
22 Feb 10	Anti Bac.: Cotrimoxazole Tabs 480mg	60	120
22 Feb 10	Others: Multivitamins	60	120
22 Jan 10	FDC's: Zidovudine/Lamivudine (AZT/3TC) FDC (300/150mg)	30	60
22 Jan 10	Single drugs: Efavirenz (EFV) 600mg	30	30
22 Jan 10	Anti Bac.: Cotrimoxazole DS 960mg	30	30
22 Jan 10	Others: Multivitamins	30	60
22 Dec 09	FDC's: Zidovudine/Lamivudine (AZT/3TC) FDC (300/150mg)	60	120
22 Dec 09	Single drugs: Efavirenz (EFV) 600mg	60	60

22. Users may use the same form to dispense up to ten stock items to a patient. Only one item is shown when the dispensing form is displayed. An "Add another item" link below this form may be used to add additional items.

Patient Dispensary

Date of Visit: * 06 Oct 10

Item:

No. of Days :


Quantity Dispensed:

[Add another item](#)

23. If a patient has not yet been assigned a regimen, the dispensing page provides a notice and a link to assign a regimen.

Patient Dispensary

This patient has not been assigned a regimen. Would you like to assign a regimen before dispensing?


Date of Visit: *  06 Oct 10

Item:
-- Select --

24. Users are now required to select an item from the stock item list and to enter the quantity dispensed before submitting a dispensing record.
25. The current balance for each stock item is listed in the stock item selection list.

Staff	Patient	Client ID	Regimen
User, Admin	client7816 ,Aaa	951786661	1A

Patient Dispensary

Date of Visit: *  06 Oct 10

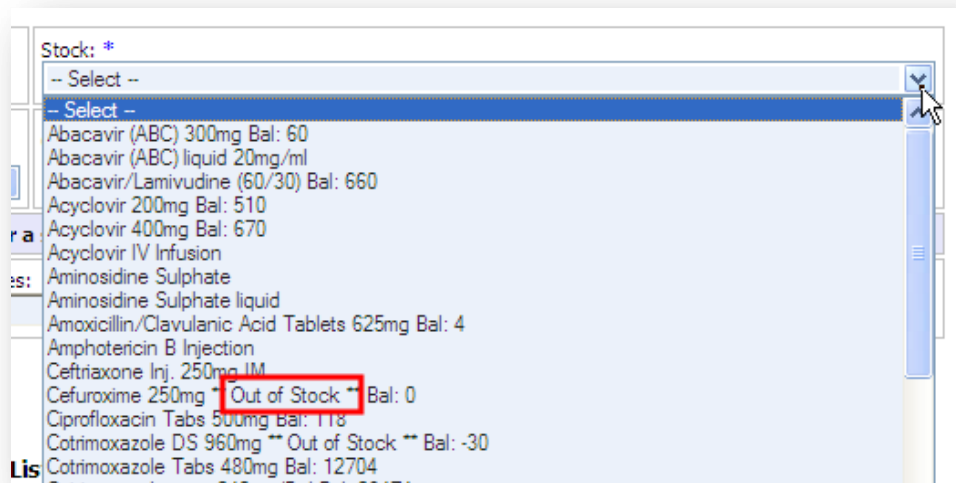
Item:
-- Select --

- Single drugs: Lamivudine (3TC) 150mg Bal: 4260
- Single drugs: Nevirapine (NVP) 200mg Bal: 1349
- FDC's: Stavudine/Lamivudine (d4T/3TC) FDC (30/150mg) Bal: 28290
- FDC's: Stavudine/Lamivudine/Nevirapine (d4T/3TC/NVP) FDC (30/150/200mg) Bal: 19500
- Anti Fung.: Diflucan 200mg Bal: 168
- Anti Fung.: Fluconazole 200mg Bal: 1236
- Anti Fung.: Griseofulvin 500mg Bal: 520
- Anti Fung.: Ketoconazole 200mg Bal: 2620
- Anti Fung.: Miconazole 10mg Bal: 133
- Anti Fung.: Nystatin Oral Suspension 100,000 Units Bal: 916
- Anti Bac.: Amoxicillin/Clavulanic Acid Tablets 625mg Bal: 4
- Anti Bac.: Ciprofloxacin Tabs 500mg Bal: 118

26. The stock item list does not show any items that are out of stock, or for which stock have never been received.
27. It is no longer possible to dispense more stock than remains based on the current stock balance. The software will ask the user to correct the amount dispensed before the dispensing record may be submitted.
28. The date of visit is now displayed when editing an historical dispensing record.

Stock Control

29. The current balance for each stock item is listed in the stock item selection list. Out of stock items are noted in the list with "*** Out of Stock **."



30. It is not possible to create a negative stock balance by issuing or entering a loss or negative adjustment greater than the current stock balance for any item.
31. The "Balance Upon Receipt" column has been removed from the Stock Control List to provide more space for other columns. Current stock balances are now shown in the list of stock items when dispensing, and in stock item list when entering new records under Stock Control. Historical stock balances may be audited in the Stock Usage Report (under Reports).
32. Quantities may not be edited in the Stock Control Listing, since these are historical records.
33. Expiry dates may be edited in the Stock Control Listing to fill in missing values and correct errors.

Stock Alerts

34. If dispensing to a patient creates a low stock condition, then a low stock warning for that item is displayed immediately.
35. If dispensing to a patient creates an out of stock condition, then an out of stock warning for that item is displayed immediately.
36. If stock issued or a loss or negative adjustment is entered that creates a low stock condition, then a low stock warning for that item is displayed immediately.

37. If stock issued or a loss or negative adjustment is entered that creates an out of stock condition, then an out of stock warning is displayed immediately.
38. If stock are received for an item that is currently out of stock, then the out of stock warning for that item will be removed immediately.
39. If sufficient stocks are received for an item that is currently low on stock, then the low stock warning for that item will be removed immediately.
40. If stocks are received or a positive stock adjustment is entered, and the stock expires within the next six months of the current date, a stock expiry warning will be displayed immediately in the Stock Alerts panel.

Health

41. If the user enters values for Weight and Height, the system displays the calculated BMI in the Health Records listing.

Date of Visit	Weight	Height	BMI	WHO Screen	CD4 Count	TB status	OI Indications	Del.
31 Oct 10	60.0	160.0	23.44		200			X
31 Oct 10	53.0	160.0	20.7					X

42. Users are now required to enter at least one value in the form before submitting a health record.
43. Patient weight, height, and CD4 count are now limited to positive numbers.

ART Regimen

44. Users are now required to select a regimen from the list before submitting a regimen change record.

Reports

45. The time required to generate each report has been reduced significantly.
46. A save button has been added to the top and bottom of each part of the combined monthly report to make it easier for users to move to the next step.

CDRR-ART Report for site44 : 06 Sep 2010 - 06 Oct 2010

Instructions: Double-click on the field in the "Quantity Required for NEW patients" column to enter values for the corresponding drug. You may also make adjustments to the calculated value for the "Total Quantity Required" column.

Once you have completed this report, click the "Save" button to save this report and continue to the CDRR-OI Report. Save

Drug Name	Basic Units	Beginning Balance	Quantity Received this period	Total Quantity dispensed this period	Losses	Positive Adjustments	Negative Adjustments	Ending Balance / Physical Count	Drugs with less than 6 months to expiry		Days out of stock	Quantity required for Re-supply	Quantity Required for NEW patients	Total Quantity Required
		A	B	C	D	E	F	G = A+B-C-D+E-F	Quantity	Expiry Date				
Adult Preparations														
Fixed Dose Combination drugs (FDCs)														
Stavudine,Lamivudine FDC (30/150mg)	Tablet	28290						28290						
Stavudine,Lamivudine FDC (40/150mg)	Tablet	0						0						

- 47. Once a monthly report spreadsheet has been generated, the software provides a convenient link to display the resulting spreadsheet report in Microsoft Excel.

Daily Activity Report

- 48. Daily activity reports (combined, adult only, and child or pediatric only) include records only for patients who were dispensed one or more of the stock items listed on the report. The numbers of patients on each regimen and the total number of patients on ART regimens shown on each of these reports reflect only those patients listed in the report.

Appointments Register

- 49. The appointments register is sorted with the oldest appointment at the top.

Defaulters Register

- 50. The defaulters register is sorted with the oldest appointment at the top.

Combined Monthly Report for CDRR/ARV's

- 51. This report has been revised to match the ART_&_PMTCT_LMIS_Data_Aggregation_Tool.xls spreadsheet. The DAR system populates the "Central Sites Commodities Report" (CDRR-ART in the old version) and "Central Site Patients Report" (Monthly ART Patient Summary in the old version) sheets. It does not populate the "Facilities Commodities Data" and "Facilities Patient Data" sheets.

Configuration

- 52. Minor software updates will be downloaded and installed automatically. Minor updates will be downloaded over the Internet while the user continues working with the software. The downloaded updates will be installed the next time the user starts the software.
- 53. A link has been provided to enable to the user to download major updates.

Updates

Use the following links when instructed to download an update to the application or to apply an update manually.

- [Download updates](#)
- [View updates](#)

54. Major updates, including major structural changes to the database, may now be run from within the software.
55. Major updates display extensive progress and diagnostic messages to enable users to monitor progress. Major updates normally require the user to close and then restart the software after the update has been completed.
56. Internal logging has been improved to enable technicians to better diagnose any problems.

Help

57. Help now includes a link to display the user guide.

Known Issues

1. Related patient age fields are not validated when editing an existing patient registration and identification record.
2. It's possible to change a patient's regimen any number of times in the same day.
3. The user may assign an adult or pediatric ART regimen regardless of the age of the patient.
4. When dispensing, the software does check the correspondence between the number of days and the quantity dispensed.
5. It's possible to schedule more than one appointment for a patient on the same day.
6. It is possible to schedule an appointment in the past.
7. The application does not handle lot numbers. Warnings regarding Expiry do not specify lot. They indicate that at least some stock will expire within the same month.
8. It's possible to select a Begin Date that occurs after the selected End Date when generating reports. (This does not affect the accuracy of the reports.)
9. On individual monthly reports, a link to the resulting Microsoft Excel spreadsheet report is shown before the spreadsheet is actually generated.

10. The defaulters register lists patients who missed appointments during the past two weeks. Patients whose status has been set to Defaulter are not included in the register. Patients who are listed in the register do not automatically have their status set to Defaulter.

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

Development and publishing of this manual has been facilitated and funded by Qualcomm's Wireless Reach™ Initiative, a strategic program that brings wireless technology to underserved communities globally. Qualcomm believes access to 3G and next-generation mobile technologies can improve people's lives. By working with partners, Wireless Reach invests in projects that foster entrepreneurship, aid in public safety, enhance the delivery of health care, enrich teaching and learning and improve environmental sustainability.

The Wireless Reach Kenya Partnership Project strengthens the ARV Pharmaceutical Management System in Nairobi Province through the use of Appropriate Information and Communications Technologies, and includes contributions from Axestel, Dell, Communications Commission of Kenya, Ministry of Medical Services, Ministry of Public Health and Sanitation, RTI International, and Telkom Kenya. For more information please visit www.qualcomm.com/wirelessreach.



MINISTRY OF MEDICAL SERVICES

MINISTRY OF PUBLIC HEALTH AND SANITATION

Afya House, Cathedral Road, P.O. Box 30016-00100, Nairobi, Kenya

+254 020 717077 • enquiries@health.go.ke • www.medical.go.ke