

CodeNet

Administrator's Guide

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ZOLL Data Systems

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Chapter 1

Introduction

CodeNet® allows hospital personnel to efficiently and accurately manage resuscitation information. It includes two software programs, CodeNet Writer and CodeNet Central.

CodeNet Writer is a Windows Mobile program that allows you to:

- Log real-time code events.
- Collect medical personnel's signatures.
- Upload resuscitation records directly from ZOLL Medical Corporation defibrillators.
- Attach those records to code events in CodeNet Writer.

You can then upload the code event and resuscitation information stored in CodeNet Writer to a workstation running CodeNet Central, a Windows program that allows you to:

- Collect resuscitation data.
- Add information and annotations to an event.
- View the ECG in its entirety, or in magnified, playback, or analysis mode.
- Route cases for code audits.
- Generate case and aggregate reports.
- Synchronize defibrillator event times and other interventions documented in CodeNet Writer to the workstation to provide consistent and accurate times.
- Submit resuscitation data to the National Registry of Cardiopulmonary Resuscitation (NRCPR), using the NRCPR interface in CodeNet Central.

The NRCPR is the in-hospital resuscitation event registry sponsored by the American Heart Association (AHA). For more information about the NRCPR and the support it provides for practice management and quality improvement, go to <http://www.nrcpr.org/>.

The *CodeNet Administrator's Guide* provides information on the optional tools available in CodeNet:

- Completing highlighted fields in CodeNet Central and CodeNet Writer
- Customizing tab views
- Documenting HIPAA disclosure information

- Performing code audits
- Submitting cases to NRCPR

Hints for Using this Book

- Interface elements, command names, and menu names are shown in **bold**.
- When you should press a combination of keys at the same time, they are shown joined with a Plus (+) symbol, for example, **Alt+n**.
- If you should type `something`, it is displayed in a monospaced font.
- All procedures are numbered:
 1. Even a one-step procedure.

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1. Go to www.zoll.com.
2. Click Documentation.
3. Click CodeNet Event Data Management.
4. Under CodeNet Resources, click Literature.
5. Click the document you want to view.

Chapter 2

Overview

There are typically two types of users for CodeNet, a documenter (submitter) and an administrator (code auditor). The submitter documents the code in CodeNet Writer and uploads the defibrillator record to the mobile device. The mobile device is then connected to the CodeNet Central workstation and the data is moved to the central share folder on the network. The submitter views the case on the workstation and enters missing data. Later, the code auditor reviews all cases and may add additional data, if necessary. Cases stored in the central share folder are organized behind the scenes into unsubmitted and submitted folders.

CodeNet uses Windows user groups to control access to the desktop application, thereby allowing only CodeNet users to start the application and controlling functionality by user type.

- **ZDUsers.** Only members of this group can start CodeNet Central. All CodeNet users must be a member of this group.
- **ZDSubmitters.** Only members of this group are restricted from opening cases outside of the unsubmitted folder. Users that will be responsible for documenting codes should be a member of this group.
- **ZDAdmins.** Only members of this group can access **Tools > Options**. Users that will be responsible for reviewing cases in the Submitted and Unsubmitted folders should be a member of this group.

Chapter 3

Configuring Tab Views

In CodeNet Central, 14 tabs are displayed to the user by default (15 tabs are displayed if you are using NRCPR). This number of tabs can be overwhelming, especially if you need only enter data on four of those tabs. CodeNet Central provides the ability to specify which tabs are displayed to the user. The configuration of the tabs to display is stored for each user separately and can be set in CodeNet Central by choosing **Tools > Options**. For detailed instructions, see the *CodeNet Getting Started Guide*. Because you would have to log into Windows as each user to set the view configuration, this may not be the most efficient way to accomplish this task.

There is a more efficient way to accomplish this task when all your users need the same tab view. Contact your deployment specialist about the tabs that you would like to omit from view. A custom license.cfg file will be created to define the view you want. In this solution, the settings apply to all users of that workstation. If you limit the number of tabs to be displayed, this workstation should be used by CodeNet submitters only; CodeNet administrators should have access to all 15 tabs and will need to run CodeNet on a separate machine.

Note: The tabs for which the submitters will be responsible vary by hospital.

Chapter 4

HIPAA

The Health Insurance Portability and Accountability Act (HIPAA) is a federal law passed in 1996 that allows group coverage to be ported from one carrier to another and includes a privacy rule for protecting personal health information (PHI).

HIPAA Disclosure Log

CodeNet Central automatically records events in which a patient's PHI is revealed. There are five such events recorded in the HIPAA disclosure log, as described in Table 1.

Table 1. HIPAA Disclosure Log Events

Event	Description
Access	The user opened a case. The event includes the name of the user who opened the case and the time the case was opened.
Export	The user exported a case. The event includes the name of the user who exported the case, the time the case was exported, and the location to which the file was exported.
NRCPR Validation	The user validated a case for NRCPR. The event includes the name of the user who validated the case and the time the case was validated.
Adjust defibrillator start time	The user adjusted the defibrillator start time. The event includes the name of the user who adjusted the start time, the time the start time was adjusted, and the original and new start times.
Document	The user added a note to the HIPAA disclosure log. The event includes the name of the user who added the note, the time the note was added, and the text of the note.

Note: For the document event to take place, the user must manually enter a HIPAA Disclosure Note available in the **Edit** menu. The event is then automatically added to the HIPAA disclosure log.

Printing the HIPAA Disclosure Log

The HIPAA Disclosure log is available as a report from the Print menu. To access this report, choose **File > Print > Case > HIPAA Disclosure** (Figure 1).

Figure 1. HIPAA Disclosure Report

HIPAA Disclosure		
2006-11-28 17:28:04 CPR number: 000124 Report Date: 2007-01-22 21:47:50 <i>Prepared by CodeNet (TM) Central</i>		
<hr/>		
Patient		
Doe, Jane MR#: 011103 Sex: Race: Date of birth: 1904-01-01 Height: 63 Weight: 110 lbs		
HIPAA Disclosure Notes		
Time	User	Details
2007-01-22 21:35:24 620	tashmore	User viewed case.
2007-01-22 21:36:15 734	tashmore	User exported case to C:\Documents and Settings\tashmore\Desktop\2007_01_22
2007-01-22 21:37:15 732	tashmore	User transferred data to local NRCPR database for validation.
2007-01-22 21:44:47 714	tashmore	User changed defibrillator power on time: from 2006-11-28 16:28:04 to 2006-11-28 17:28:04
2007-01-22 21:47:04 66	tashmore	User entered note: Printed Code Record report

Chapter 5

Code Audit

CodeNet Central provides mechanisms to help ensure that data entered for a case is complete. For example, fields highlighted in red let the user know that required information is missing. The code audit process tracks incomplete cases to their completion.

Highlighted fields

You must complete the following red highlighted fields on the **Code Record** tab before you can submit a case for code audit. If you do not complete these fields, you will be prompted to do so before the code audit submission will be successful.

- Patient ID/MR Number
- Last Name
- Event Type
- Patient Type
- Physician Leader
- Recorder

The **Code Quality** tab also requires data. You can either select No code quality issues or enter the required information.

Events on the **Code Log** tab will be displayed in red text if either data is missing or the data needs to be transcribed. There are two scenarios in which an event may be marked blue to indicate a potential issue:

- The defibrillator event does not include the defibrillator type or biphasic answered.
- The defibrillator event was manually recorded in CodeNet Writer and automatically recorded by the defibrillator, thereby resulting in two identical events instead of one unique event.

In the first scenario, you may not have the necessary information to complete the fields. If you leave the event incomplete, you can still submit the case for code audit.

In the second scenario, CodeNet Central marks the event blue to indicate a possible duplicate shock. You can still submit a blue event for code audit. In the case where

defibrillator data exists, CodeNet Central interprets manually-recorded shocks as duplicate shocks and hides them from the user. However, if no defibrillator data exists, the software displays the manually-recorded shocks in black text, indicating that they are unique events. You can display the hidden shocks, using the Show All Hidden Shocks button. When you click this button, CodeNet Central displays the possible duplicate shocks in blue text, and displays Duplicate? in the Comments column. You can accept or re-hide the duplicate shocks. If you accept them, using the Accept Duplicate Shock button, CodeNet Central changes the text that represents the shock from blue to black, thereby marking the shock as a unique event. If you hide them, using the Hide All Duplicate Shocks button, they will again be hidden from view and be ignored.

Note: Defibrillator recorded shock events will always be considered unique events, be visible, and appear in black text.

Code Audit Process

The code audit process involves four statuses: Unsubmitted, Submitted, Rejected, and Accepted, each of which can be searched on individually. The process may include:

- Reviewing the work of a code documenter.
- Viewing, adding, or editing the information submitted by the code documenter.
- Viewing, adding, or editing information on tabs on which the code documenter does not work.
- Accepting the case, or rejecting it and returning it to the code documenter for additional work.

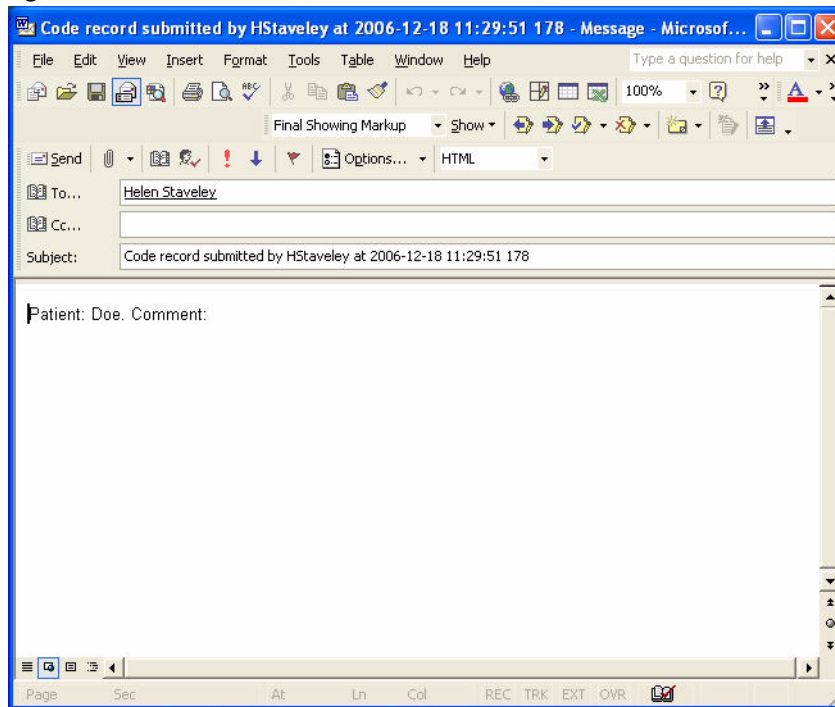
Note: The code audit features work in conjunction with the Windows user groups. See Chapter 2. With the Windows groups in place, the submitter can submit the case only. The Administrator can submit, reject, or accept cases.

To submit, accept, or reject a case:

1. Choose **Tools > Code Audit**, and then choose Submit, Accept, or Reject from the CodeNet Central main window. A popup window opens, prompting you to enter comments about the case.
2. Enter comments, such as an explanation as to why a case is being submitted with missing information or why a case is being rejected.

3. If you want to send an e-mail, go to Step 4. If you do not want to send an email, click OK to complete the action (submit, accept, or reject the code record).
4. If you want to send an e-mail to indicate that a change has occurred in the code audit status, click the Notify via email checkbox and then click OK to complete the action (submit, accept, or reject the code record). A new message of the installed MAPI-compliant e-mail application opens, as shown in Figure 2.

Figure 2. Code Record E-mail Window



In the body of the e-mail, CodeNet Central includes your comments and the name of the patient. The Subject: field contains the submitter’s name and time of the audit status transition. The To: field is blank.

If you want the To: field to always contain the e-mail address of the code auditor, choose **Tools > Options > Code Audit**. In the Default email address for audit notifications: field, enter the e-mail address of the person to which you want to send the messages. When you configure an e-mail address, the Notify via email checkbox in the popup window will always be selected. If you do not configure an e-mail address, the Notify via email check box is not selected, thereby making it optional.

5. Click Send to send the e-mail.

You can display the history of the code audit from the **Code Audit History** tab on the CodeNet Central main window. The history information includes the date and time of the action, the action performed (Rejected, Submitted, or Accepted), the name of the user who performed the action, and any comments that the user entered in the popup window.

Chapter 6

NRCPR

CodeNet Central allows you to submit resuscitation data to the National Registry of Cardiopulmonary Resuscitation (NRCPR), using the NRCPR interface from the CodeNet Central main menu. Hospitals that participate in NRCPR receive an NRCPR software CD. The NRCPR will train one or more users from those hospitals on how to use the NRCPR software and participate in the NRCPR program. NRCPR provides a local database file in which the records are stored until the hospitals submit them to the NRCPR. Some hospitals choose to submit their NRCPR records once every three months; others may choose to submit their records more frequently, such as once a month.

The NRCPR software is available through your ZOLL Sales Representative. For more information on NRCPR, go to <http://www.nrcpr.org>.

Enabling the NRCPR Software

NRCPR has its own application that is installed on the workstation. NRCPR is responsible for assigning a facility ID, authorized users, and pointing the software to the correct database file.

Once this is completed, CodeNet can be configured to interface with the NRCPR database file.

1. In CodeNet Central, choose **Tools > Options > NRCPR**.
2. Enable NRCPR.
3. The default installation folder for NRCPR is **C:\Program Files\NRCPR**. If the path to NRCPR is not shown, click Change and then browse to and select the NRCPR software installation folder.
4. Add authorized users, including information such as their Windows network IDs, their NRCPR IDs, and passwords, as configured in the NRCPR application.

CodeNet Central is now ready to add cases to the NRCPR local database. Since not every case will meet the criteria for NRCPR, hospitals must review each case individually and decide whether to submit it to the NRCPR.

Submitting Cases to the NRCPR

CodeNet Central stores data in a combination of XML and binary format, in files with the extension .zol. These files typically get stored in a shared folder that you have set up on the network. When you select a file to be submitted to the NRCPR, a flag is set in the .zol file and the software enables **Validate for NRCPR**. The button is red to indicate that validation is not yet successful. When the case is validated, a call is made to the nrcprapi.dll, which is the same dll used by NRCPR's standalone application. This dll validates the case for meeting NRCPR criteria. The data from the .zol file is copied into the NRCPR local database at this time. A check for possible duplicates is concurrently made.

The NRCPR criteria rules are described in the NRCPR Operational Definitions manuals. To access these manuals, choose **Tools > NRCPR > NRCPR Operational Definitions**. Three records must pass validation: Admit, Cardiopulmonary, and Respiratory (if applicable). When a validation issue is found, the edit checks returned by the dll are displayed in CodeNet on the **NRCPR Validation** tab. After the issues have been resolved, the case is validated again. The data is updated in the NRCPR database and validation will either be successful, or more issues will be displayed on the **NRCPR Validation** tab. After the case has been validated, CodeNet Central displays a green heart and the NRCPR database marks the three records as closed. The case is now ready to be submitted to NRCPR.

Submitting cases to NRCPR involves transferring closed cases from the local database to the national NRCPR database. This function is performed from within the NRCPR application. When the process has been completed, the cases are marked in the local database as sent. When you open a sent case in CodeNet Central, the heart icon has a blue checkmark.

Transferring Data from CodeNet Central to the Local NRCPR Database

Data entered on every tab in CodeNet Central must meet the NRCPR criteria in order for the case to validate successfully. The data collected on the **Code Log** tab represents a chronological record of the events in the case; the data on this tab can also be used as a reference to complete the fields on the remaining tabs. The shocks represented on this tab are the only events that get pulled directly into the NRCPR database.

Viewing Cases in the NRCPR Application that Originated in CodeNet Central

When a case is validated (successfully or not) for the first time in CodeNet Central, it is then added to the local NRCPR database. At this time, it can be viewed in the NRCPR application. All data fields regarding Cardiopulmonary, Respiratory, and Admission should match what was entered in CodeNet Central. Any reports run from within the NRCPR application will be accurate and up-to-date because the NRCPR application and CodeNet Central share the same local NRCPR database.

Chapter 7

Technical and Sales Support

For customers in the United States, contact ZOLL Medical Corporation at the following address, telephone numbers, e-mail address, fax number, or URL if you have questions about using the CodeNet software or want information about software sales, upgrades, and support contracts:

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For customers in all other locations, either send e-mail to TechSupport@zoll.com or contact your nearest authorized local ZOLL representative. International offices: <http://www.zoll.com/contact.htm>.

