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1. INTRODUCTION

Purpose of the System

This system has been developed by the Health Protection Agency (HPA) to allow NHS acute trusts ("acute trusts") to make electronic requests for ribotyping of *Clostridium difficile* at their regional HPA CDRN Laboratory and allow electronic communications and results to be sent to the original requester, as well as other scientific and clinical staff at the requesting NHS Trust.

Access to the System

The website is located on the NHS wide area network known as “N3”. Access to the system is not possible via an ordinary internet connection (dial-up or broadband).

The website URL is https://nww.cdrn.nhs.uk

Access and security are controlled with a Secure Site Licence (SSL) and security features built into the registration emails, as well as usernames and passwords.

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Important

All users must register for a username and password by clicking on the “Register” link in the top right of the home page on the website.

You will be asked to specify your NHS Trust during the registration process.

If you need to send specimens from more than one NHS Trust, you must register separately for each NHS Trust.
2. ORGANISATION OF THE SYSTEM

Functional Overview

At the time of writing, the system currently allows for NHS Acute Trusts to perform the following tasks:

- Make electronic requests for *C. difficile* ribotyping at the correct regional HPA laboratory performing *C. difficile* ribotyping
- Receive electronic notification of specimen check-in and results sent by the regional HPA laboratory performing *C. difficile* ribotyping
- View and export historical *C. difficile* ribotyping results electronically

Main Page / Tab Overview

Home Page

**Note:** you must be logged on to make a specimen request
Chapter: ORGANISATION OF THE SYSTEM

Login Page

Username & password

Registration Page

Registration Area
Registration Process

Enter your registration details

To register for the website, enter your personal details on the registration page as follows:

1. **Username**
   - Create and enter a username

2. **First and last name**
   - Enter a title, first and last name

3. **Password**
   - Create a password (hints for creating a secure password: use a mixture of cases, alpha numeric characters and symbols [ie “A*%fo4”])

4. **NHS e-mail address**
   - Enter your valid NHS e-mail address name@xxxx.nhs.uk or @nhs.net

5. **NHS Trust**
   - Use the pull-down menus to select your NHS Trust and main hospital where you are currently based

Once you have registered on the website, you can logon and begin making specimen requests.
Making a specimen request

Request Test Tab (Step 1 of 5) Requester Details

Requester Details
- Full name of requester
- Valid NHS e-mail address
- Name of authorising HPA

*denotes a required field (user cannot progress to next step without completing this information)

Request Test Tab (Step 2 of 5) Patient / Specimen Details

Patient Details
- Name
- DOB
- Sex
- Hospital Number
- NHS number

Specimen Details
- Specimen Date
- Specimen Type
**Chapter: ORGANISATION OF THE SYSTEM**

Request Test Tab (Step 3 of 5)  *Reason for Submitting / Antibiotic History*

- **Reason for Submitting Specimen**
  - (Please select at least one option):
    - Severity of symptoms in this patient:
      - Yes
      - No / N/A
    - Severity of symptoms in other patients:
      - Yes
      - N/A
    - Cluster(s) of cases:
      - Yes / No
    - Unexplained increase in CDI cases:
      - Yes
      - N/A
    - Other:
      - [Blank]

- **Antibiotic History**
  - Number of antibiotics in 30 days before onset of episode of CDI:
    - Yes
    - No / N/A
  - Methicillin-resistant (MRSA):
    - Yes
    - No / N/A
  - Methicillin-susceptible Staphylococcus aureus (MSSA):
    - Yes
    - No / N/A
  - MRSA:
    - Yes
    - No / N/A
  - MSSA:
    - Yes
    - No / N/A
  - Other:
    - [Blank]

Request Test Tab (Step 4 of 5)  *Clinical Follow-up / Outcome Data*

- **Clinical Follow-up Data**
  - Date of follow-up: 11/05/2010
  - Was the patient admitted to an intensive care unit due to CDI?
    - Yes
    - No
  - Did the patient have:
    - Tachyphagia
    - N/A
  - Any surgical procedures that may have contributed to the CDI?
    - Yes
    - No
  - Other:
    - [Blank]

- **Outcome Data**
  - Did the patient die within 30 days of the onset of CDI infection?
    - Yes
    - No
    - Unknown
  - If yes, what was the date of death?
    - [Field]
  - If yes, was a cause of death or contributory factor in the death?
    - Yes
    - No
    - Unknown
  - Other:
    - [Blank]

*denotes a required field (user cannot progress to next step without completing this information)
Step 5 of the process is a preview screen of the information provided in Steps 1 – 4.

The user is prompted to select one of the following:

1. **Save for Later** (the user can select this option at any time and return to the “View Reports” tab and select “Incomplete Specimens” to finish submitting specimen)
2. **Previous** (the user can go back to any of the previous steps 1-4 to change information)
3. **Submit** (the user is happy with all information provided and proceeds with completing the specimen request)
When the requester presses the “Submit” button, they are asked to confirm that they would like to submit the specimen request.

**Important**

Immediately upon selecting “OK” the specimen request is final. Additional changes are not possible.

The appropriate CDRN laboratory is notified electronically at this stage that a request has been made.

The requester is prompted to print the completed specimen request form to post along with the specimen to the appropriate CDRN laboratory.

An e-mail of the completed specimen request form is also sent in PDF format to the requester.
Once the user presses “Submit” and confirms, they are given the option to “View and Print PDF” of the completed request form, or “Make another request”, which will take them back to Step 1 of 5.

A final PDF of the completed request form opened in Adobe Reader
An e-mail is sent to the requester’s e-mail address entered in Step 1 with a PDF of the completed request form.
**Completed Request Form**

The completed request form contains all of the information entered in steps 1 - 5 regarding the requester, specimen and patient, as well as the correct address of the HPA CDRN Laboratory corresponding to the requesting NHS Trust's Region.

The completed specimen request form should be printed and sent along with the specimen to the HPA CDRN Laboratory for processing.
Making requests for more than one NHS Trust

Currently, if you wish to make specimen requests for more than one NHS Trust, you must register separately for each NHS Trust. We are working on a future solution which will allow for one requester to make request from multiple NHS Trusts with one registered account, but this will take some time to develop.

You can use the same e-mail address for the registration process, but you must create different usernames and passwords for each NHS Trust that you register for.

To register for additional NHS Trusts, follow the same registration process, selecting a different NHS Trust.

1. **Username**
   - Create and enter a username (must be a different username for each NHS Trust)
2. **First and last name**
   - Enter a title, first and last name
3. **Password**
   - Create a password (hints for creating a secure password: use a mixture of cases, alpha numeric characters and symbols [ie “A*%fo4”])
4. **NHS e-mail address**
   - Enter your valid NHS e-mail address name@xxxx.nhs.uk or @nhs.net
5. **NHS Trust**
   - Use the pull-down menus to select your NHS Trust and main hospital
3. TRUST CONTROL PANEL (ACUTE NHS TRUST)

Trust Control Panel

The Trust Control Panel allows additional e-mail addresses to be entered to streamline communication between the CDRN Laboratory and colleagues at the Acute NHS Trust. E-mail communications of specimen requests, laboratory check-in notifications, and ribotyping results will be sent to all e-mail addresses which appear in the Trust Control Panel.

The Trust Control Panel can be accessed by selecting the Trust Control Panel tab on the home page of the website, and entering the Trust username and password.

Upon registering on the website, all users are automatically added to the Trust distribution list for all communications, and appear on the Trust Control Panel.

**Important**

All e-mail addresses within the Trust Distribution List will receive courtesy copies of the following transactions made on the system for their particular Trust:

- Notifications that a specimen request has been made (to share information with Trust colleagues and to prevent duplication of work).
- Notifications of CDRN Laboratory specimen check-in (to communicate to Trust colleagues that the specimen has been received by the Laboratory and is being processed).
- Notifications of ribotyping results (to communicate to Trust colleagues of a ribotyping result).
4. CDRN LABORATORY SPECIMEN CHECK-IN

Once the requesting Acute NHS Trust has posted the specimen along with the completed specimen request form to the CDRN Laboratory, it will be checked-in on the system.

All contacts on the Trust Distribution List will be notified by e-mail of the specimen check-in. This is to inform colleagues that the specimen has been received and inform them when a result is expected, therefore allowing for improved communication during outbreak management and patient care.

Below is an example of an e-mail sent to the Requester and Trust Distribution List to inform them that the specimen has been received by the CDRN Laboratory.
5. RIBOTYPING RESULTS

E-mail notification of ribotyping result

The CDRN Laboratory will issue ribotyping results via the system when they are ready. The specimen Requester and the Trust Control Panel will receive e-mail notification of the result, along with a PDF copy of the certified result.

The e-mail below is an example of the electronic notification of ribotyping results:

```
From: result@cdrn.nhs.uk
To: Shenku.Mcr@NHS.net
Subject: CDRN Result (Ref: HPA123412342790)

Dear colleague,

The result for the specimen HPA123412342790 is as follows:

Date of Result: 15/03/2010

Dear Health Protection Agency,

This email is confidential and is intended solely for the person or entity to whom it is addressed. If this is not you, please forward the message to mail.administrator@NHS.net. We have scanned this email before sending it, but cannot guarantee that malicious software is absent and we shall have no liability in this regard.

We advise that information intended to be kept confidential should not be sent by email. We also advise that health concerns should be

To view the result, the user is invited to log onto the website.
```
PDF of ribotyping result

Ribotyping results are validated and issued by the CDRN Laboratory and can be accessed by logging onto the website with the Trust username and password and selecting the “View Reports” tab.

The following is a PDF of a ribotyping result.
6. REPORTS

View Reports Tab

Users must first log into the system with the Acute NHS Trust username and password.

Navigating to the View Reports tab, the user will find a pull-down menu, which currently allows the user to view the following:

- **Incomplete Specimens** requests (partially completed specimen requests, for which a requester has selected “Save for Later” in one of steps 1 – 5).
- **Specimens Submitted** (specimens for which request forms have been printed and posted along with the specimen to the CDRN Laboratory, awaiting to be checked-in).
- **Specimens Pending** (specimens received by the CDRN Laboratory, but pending results).
- **Specimens with Results** (specimens with validated and issued results).
- **Advanced Search** (search all data for your Trust)

The screen below shows the View Reports Tab and the pull-down menu for an authenticated user from an Acute NHS Trust once the user has logged onto the system.
**View Reports Tab (Incomplete Specimens)**

If there are incomplete specimen requests for an Acute NHS Trust, they will appear here. The user can select an incomplete specimen request by double clicking on it, and advance through steps 1-5 to add / edit / delete information related to the specimen request until it is ready to submit to the CDRN Laboratory.

The user can also cancel this specimen request by deleting it from the system.
**View Reports Tab (Specimens Submitted)**

If specimens appear here, it means that they have been submitted by the requesting Acute NHS Trust, but not yet received and checked in by the CDRN Laboratory.

Once the specimens have been received by the CDRN Laboratory and check-in, the specimen requests will no longer appear on this menu.

**View Reports Tab (Specimens Pending)**

If specimens appear here, it means that they have been received and checked-in by the CDRN Laboratory, and are awaiting ribotyping results to be entered onto the system and validated.

Once the results have been entered and validated by the CDRN Laboratory, they will no longer appear on this menu.

**View Reports Tab (Specimens with Results)**

This view allows Acute NHS Trust users to view all historical ribotyping results that have been finalised and validated by the CDRN Laboratory. To see the historical results, the user selects the PDF file to view the validated result.

Currently, users are presented with a list of results in date / time order of all ribotyping results from a particular Acute NHS Trust as per the view below:
Advanced Search

The advanced search option gives Trusts the ability to search and export data for their Trust on the system. Once a search has been performed, the user can export the data in .csv format for input into Microsoft Excel or other software system.
7. APPENDIX A (DATE SELECTOR)

Use arrows to go forwards or backwards (month, year)

Click to activate date picker

Click here to go to a higher range (eg. year, range of years)

Click to select date
8. APPENDIX B (TROUBLESHOOTING)

I can’t get to the opening page of the website

Check that your Internet connection is working properly and that you are trying the correct URL (https://nww.cdrn.nhs.uk)

Check that you have access to N3 (the NHS Private Network)

My password is lost

Go to the login page of the website, and enter the e-mail address that you registered with, as well as the Trust and hospital information. An e-mail will be sent to your registered e-mail address with the password information.

Some of the functions don’t seem to work / the screen is frozen

Close your internet browser and open up a fresh instance of the internet browser

Check that your version of Internet Explorer is at least version 5.5, preferably 6.0 or higher.

I receive an error message when attempting to try and perform an action

Copy it to your computer’s clipboard by pressing the “Print Screen” key at the top right of your keyboard.

Open Word and paste the contents of the clipboard into a new document. Save it and email it to support via the support web form available on the website.

The system seems very sluggish

Try logging off and trying again. If things were OK but the system persists in running slowly then contact CDRN support via the support page on our website.