FormularyComplete user manual

1. Main features of BNF on FormularyComplete

2. User guide: finding prescribing information

3. Editor guide: using the local formulary editing tools

4. System manager guide: formulary settings, user accounts and reports

5. Support

6. Glossary

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1 Main features of BNF on FormularyComplete

The British National Formulary (BNF) and BNF for Children (BNFC) are published on the public internet by the Pharmaceutical Press at MedicinesComplete and by NICE as part of NHS Evidence. FormularyComplete differs from these online publications in providing the means to build a local formulary based on the information in the BNF (or BNFC). It has been designed to be deployed over a healthcare organisation’s private network—e.g. a trust’s intranet—rather than the internet.

The extent to which hospital trusts wish to customize the BNF for their internal use varies considerably, and the FormularyComplete application accordingly offers formulary managers a variety of tools for adding notes, links and local status flags to BNF and BNFC records and for integrating locally created documents into the same system. The software does not, however, permit the BNF data to be directly edited or BNF records to be deleted; alterations of this nature would be inconsistent with the requirement for updating the BNF content in line with published editions while preserving the locally inserted information.

Notable features of the application include the facility for navigation to records via an expandable tree view of the hierarchical structure of each publication (or ‘taxonomy’) and the ability to associate a locally added content item with any number of records in the BNF or BNFC, thereby removing the need to copy guidance that has to be repeated in various places.

Reports can be generated from the database that list drug records and their assigned status in the local formulary, with the optional inclusion of locally appended notes and—in the case of VTMs—the URL of any NICE Technology Appraisal that applies to them.

The current version of FormularyComplete uses the ‘legacy’ BNF content structure with numbered chapters, and December 2017 is the last quarterly update.

1.1 User access and system permissions

The system software provides for users of an organisation’s intranet to be able to consult the BNF on FormularyComplete without having to log in.

There are three user roles that accord system privileges additional to those enjoyed by the ordinary user and that are available only after logging in with a user name and password: ‘author’, ‘publisher’ and ‘admin’. Users with any one of these roles see an ‘Admin’ menu at the top of the web page.
The purpose of having two editor roles is to facilitate the implementation of a workflow of checking and approval prior to the publication of content additions and changes. The approval of draft edits is managed through the ‘Publishing Queue’. The system does not force the use of this feature, as there is an immediate publication alternative available to users with the ‘publisher’ role that bypasses the step of getting drafts approved. Where more than one person is involved in editing the formulary, a policy decision will be needed on whether or not to allow the ‘Publishing Queue’ to be sidestepped in this way.

The permissions accorded by the roles are cumulative, and the present manual is arranged to reflect this addition of accessible functions of the software. The user guide covers finding information (all users); the editor guide explains the use of the extra tools at the disposal of an ‘author’ and a ‘publisher’; and the system manager guide outlines additional tasks reserved for a user (or users) with the ‘admin’ role, but which do not demand technical computer expertise. Tasks that require network permissions usually reserved for IT staff, such as software installation and backing up the database, are described in separate documents.
2 User guide: finding prescribing information

2.1 Home page

The first thing you see on launching FormularyComplete is the local formulary home page. Along the top are links to ‘Login’ (for access to editing and management functions) and ‘Help’ (to download this manual or seek technical assistance). In the centre of the page you may see a noticeboard included by your formulary manager. Lower down is space where the manager can insert RSS feeds.

2.2 General search

Across the top of every page is a search bar. The search can be restricted to one formulary by use of the dropdown menu; the default is to search all site content (‘All References’).
2.2.1 Entering search terms

Entering two characters in the field at the left end of the bar will produce a dropdown list of possible search terms that start with those two letters. Alternatively, you can key in the whole word yourself. Click the ‘Search’ button or hit the return key to trigger the search.

NOTE If you use autocompletion, either select the formulary in the second field first or make sure that you select the full term from the list before selecting the formulary (otherwise you may find yourself committed to a search on just the two letters).

General search restricted to one formulary (here ‘St Mary’), making use of autocompletion

2.2.2 Search results screen

The results are displayed in a separate block for each formulary. The blocks can be expanded and collapsed using the small arrow icon at the top right-hand corner of the block of results.

General search results
The second column of the search results list contains clickable links to the corresponding records. The third column shows the path to where in the formulary the information is located. This can be useful in cases such as diazepam, which is found in several sections of the BNF.

Where a search result is an UPPER CASE drug name, following the link will take you to the monograph for the drug. (The substance whose use is described by a BNF monograph normally corresponds to a virtual therapeutic moiety in the NHS Dictionary of Medicines and Devices.)

Typical preparation record, reached by clicking a link in search results

2.3 Searching within a formulary

2.3.1 Formulary buttons

At the right-hand end of the search bar are buttons linking to the formularies. Typically, users will see one button for the BNF or the local formulary and one for BNF for Children.

2.3.2 Formulary home pages

Each formulary on FormularyComplete has its own starting page. Below the standard search bar is a banner that shows which formulary you are looking at.
BNFC starting page

The formulary home page provides different ways to access content.

Interactions search

You can search the BNF’s drug interactions information by entering a drug name in the interaction checker.

Interactions search results for gentamicin in BNFC
The system will return a list of all BNF interaction messages for that drug. Note that where a drug is a member of a class of drugs that have the same interaction profile, additional blocks of interaction messages may be displayed. For example, in the interactions page for metformin, there is an additional table listing interactions between antidiabetics and other drugs.

**Medicine search**

The A–Z medicine search is specifically for drugs and products covered by the BNF or BNFC. It may be helpful when the user is not sure of the exact spelling of a medicine’s name.

The results, which appear below the box for the search term, contain links only to monograph and preparation records.

**Browse table of contents (taxonomy tree)**

The titles of all records in the formulary are listed on the right-hand side of the formulary home screen in an expandable hierarchy, or taxonomy view, which functions as a table of contents. Clicking the arrow icon to the left of a title opens (or, on reclicking, closes) an ordered list of the titles of any records at the next level below. Clicking on a title itself takes you to the formulary record.
Expanding the tree

Titles in the table of contents of either of the formularies will be accompanied by a coloured marker when a local formulary status has been assigned to the record they stand for.

2.4 Searching from a content page

Links from a content page
2.4.1 Content pages

Below the record title on pages that display formulary content is a breadcrumb trail whose elements link to higher-level records in the BNF or BNFC structure.

The main body of the content page comprises one or more framed blocks of text.

• If no local information has been added to the record, just the content from BNF or BNFC will be displayed. The bar at the top of the content box states the source of the information (BNF, BNFC or local).

• If there is no corresponding BNF record, for example in the case of a local extemporaneous preparation or a clinical trial drug, a message will be displayed in the BNF content box to say that there is no BNF information available.

• If a record has both local and BNF information, the local information will be displayed first.

If a record has a formulary status set, the colour of the content box frame and wording at the top of this frame will show the status. If no other local information is associated with the record, an empty box showing the formulary status will be displayed.

Typical record without annotations as displayed to a normal user

NICE guidance

Where a NICE Technology Appraisal applies to a drug (VTM), a link to the BNF summary of the guidance will be present in the bar of the ‘BNF’ content box to alert you. The summary contains, in turn, an external link that forwards you to the Technology Appraisal itself. This link should open in a separate browser tab.

NOTE Be aware that because NICE Technology Appraisals are generally not directed at AMPs, if you go directly to a preparation record, you will need to check its drug monograph parent record to ascertain whether a TA applies to its principal active ingredient.

Related information and comparison of similar medicines

The box at the right-hand side of the content page contains links to related records.
• The first item in the ‘Related Information’ box is normally a list of the other records in the same group, which will include coloured status markers where a formulary status has been assigned.

• When you click on an item in this first list, a window pops up as an overlay on the page you were looking at. This window contains the content page for the selected record and buttons to close the window or jump to that record. This feature is intended to make it easy to compare alternative treatments without moving away from the record you originally selected.

**Compare records using overlay**

**Breadcrumb trail**

The ‘Related Information’ links displayed on the right of the page do not allow you to step back up the hierarchy in the same way as the Table of Contents does, so use the elements of the breadcrumb trail at the top of the page to do this.

**Text hyperlinks**

The *BNF* text includes live cross-references, e.g. to sections containing prescribing information or to child doses in *BNF for Children*, and links to external websites.

**Browser navigation**

You can move backwards and forwards between records using your browser controls, as between pages on a normal website.
2.5 Manual entry of the dm+d identifier

The database includes the substance identifiers (ID) from the NHS *Dictionary of Medicines and Devices* (dm+d). Their primary purpose is to facilitate integration of different electronic systems. To find a drug from its dm+d ID, it is necessary to enter the path into the address bar of your browser, as though you were going to another website.

The address (URL) is constituted as follows:

http://localsevername:portnumber/bnf/dmd/ID

The port is usually 8080. The path up to /bnf/ should be visible in the address bar anyway, so you only need to replace whatever comes after that with dmd/ and then key in the dm+d ID of the drug substance.

Example of dm+d ID search (here for Velcade)

2.6 Printing records

To print out a record you should use the print command in your browser. For the web page to print correctly you need to ensure first that ‘Print background colors and images’ is ticked under the browser’s Page setup options. (Page setup is normally found in the File menu or the Print menu, depending on your browser, and may be located under a Format subdivision of that menu.)
3 Editor guide: using the local formulary editing tools

3.1 Logging on to the system

To access the editing features of FormularyComplete, it is necessary to log into the system.

3.2 Basic local formulary features

3.2.1 Setting formulary status

When you are logged on to the system as an editor (that is, with the role of either ‘author’ or ‘publisher’), a box is displayed above the content of each page to allow you to set its formulary status. A formulary status is usually set on monograph and preparation records. The option to set a formulary status is available, however, on all records in case it is needed.

Formulary status selection tool

NOTE Where a drug (VTM) is recommended by NICE in all applicable Technology Appraisals, the monograph record is set to ‘On Formulary’ by default when you install FormularyComplete for the first time. Subsequent changes that you may make will be preserved in the database when updates are installed.
Your system manager can specify the formulary statuses that are available for use at your site. The default statuses are ‘On Formulary’, ‘Restricted’ and ‘Off Formulary’. After selecting a status with the radio button you can send the change to the Publishing Queue for confirmation by clicking the ‘Publish’ button. A ‘publisher’ has the additional option of using a ‘publish immediately’ command that makes the change on the website straightaway.

3.2.2 Using the Annotation Editor

The simplest way to add local information to BNF on FormularyComplete is to use the Annotation Editor (CKEditor). For this you need to be logged on to the system as an editor. You will see an ‘Edit’ button in the top right-hand corner of formulary pages that do not have any annotations. Selecting the ‘Edit’ button launches the Annotation Editor.

Annotation Editor

Where a record already has an annotation, the Edit button is not displayed. Instead, an ‘edit’ link is provided directly above the annotation. Selecting this link opens the Annotation Editor to allow you to edit the existing annotation. 

Link to reopen Annotation Editor once an annotation is present
Buttons at the bottom of the Annotation Editor allow you to

- save your work in progress as a draft
- send your work to the Publishing Queue for checking
- submit the entire note to the Publishing Queue with a ‘Delete’ recommendation (*it is not possible merely to ‘Publish’ a note with all content removed*)

A ‘publisher’ has the additional option of using a ‘publish immediately’ (or ‘delete immediately’) link that requests re-entry of his/her password and then makes the change on the website straightaway.

The editing form provides a simple editor with a range of formatting controls and support for the insertion of external web links. The formatting tools are straightforward. A general description of the linking functionality of this editing tool is provided at the CKEditor site. We suggest that if you wish to add links using the tool, you should set the URL in the ‘Link Info’ and in the ‘Target’ select ‘New Window (_blank)’. This will create a link that when clicked will open another tab in most browsers.

**NOTE** You should avoid pasting in content from other applications, such as hyperlinks extracted from web pages or tables copied from Microsoft Word. The embedded coding associated with the formatting in other applications could cause corruption and render the record inaccessible.

![Creating a link in the Annotation Editor](image)

**NOTE** If you have difficulty getting your cursor to register in the pane for entering text content, try clicking a font style control, such as the ‘B’, first.
3.2.3 Save as draft

When you save work in progress, it is added to the Publishing Queue with its status set to ‘Draft’. To return to a record to complete editing, go to the Publishing Queue via the Admin menu and open the link to ‘Manage Publishing Queue’. Selecting the link to the document name will relaunch the Annotation Editor, allowing you to continue work where you left off.

Reopen draft from Publishing Queue

Be aware, however, that such a draft is not locked in your name; other editors are able to open and amend drafts.

3.2.4 Publish

When you have finished creating or editing content in the Annotation Editor, selecting ‘Publish’ sends the record to the Publishing Queue for approval.

3.2.5 Publish immediately (‘publisher’ only)

Selecting the ‘publish immediately’ link in the Annotation Editor will send the update directly to the live site, bypassing the Publishing Queue. As a reminder that this operation bypasses checking procedures, you will be asked to confirm it by entering your password.

3.2.6 Delete

Selecting the ‘Delete’ button merely adds the record to the Publishing Queue with Delete as the proposed change. If the Delete action is then confirmed, the whole annotation will be removed from the live intranet site.
3.2.7 Delete immediately (‘publisher’ only)

Selecting the ‘delete immediately’ link will remove the whole annotation from the live intranet site straightaway. As this operation bypasses checking procedures, you will be asked to confirm it by entering your password.

3.2.8 Preview this document

The ‘Preview this document’ link in the Annotation Editor form indicates how the record will appear when the amended version is published.

3.2.9 View previous documents

The ‘View previous documents’ link in the Annotation Editor form uses the Publishing Queue to display a list of previous versions of the record being edited.

3.3 The Publishing Queue

The Publishing Queue is a simple but powerful workflow control to support the reviewing of locally added information before it is made available to clinical end-users. The Publishing Queue also has a history view, which provides an audit trail of editing actions and a means of checking previous versions of a record.

3.3.1 The Publishing Queue list

The Publishing Queue list shows

- The publishing status of each record
- The name of the source formulary
- The document title, with a link to the record itself
- The document type (type of editing operation)
- An option to view previous versions (displayed on clicking the ‘View previous versions’ link)
- The name of the editor responsible for the record content change
- The date of the edit
3.3.2 Publishing status

Draft

When you select ‘Save Draft’ in the Annotation Editor or Local Record Editor, the record is added to the Publishing Queue with its status set to ‘Draft’. When you are ready to resume editing, clicking on the ‘Document’ link reopens the editor.

Ready to Check

When you have finished creating a content item in the Annotation Editor or Local Record Editor and select the ‘Publish’ button, the record is added to the Publishing Queue with its status set to ‘Ready to Check’. When the record has been checked, the checker would typically set the status to ‘Needs Review’ or ‘Ready to Publish’. Clicking on the ‘Document’ link when the status is set to ‘Ready to Check’ opens the last edited version in the editing tool.

NOTE  Remember to tick the checkbox as well as select the publishing status, and then click ‘Submit’, to confirm any status change to a record in the Publishing Queue.

Managing Queue

Needs Review

The publishing status is set to ‘Needs Review’ by the checker to indicate that further changes need to be made. The entry remains in the live Queue, but ‘Ready to Check’ and ‘Ready to Publish’ are no longer offered as options. Clicking on the ‘Document’ link opens the appropriate editing form.
Ready to Publish

When the publishing status has been set to ‘Ready to Publish’, an editor or checker who has ‘publisher’ permissions can select the left-hand checkbox and then the ‘Submit’ button. This publishes the record to the live intranet, where it will be visible to end-users. The record is moved to the history view of the Publishing Queue with its status set to ‘Published’.

Cancel

If the publishing status has been set to ‘Cancel’, typically by the author or the checker, when the left-hand check box and the ‘Submit’ button are selected, the record is moved to the history view of the Publishing Queue with its status set to ‘Cancelled’. The amendments made to the record will not be visible to users of the live intranet site. Clicking on the ‘Document’ link when the status is set to ‘Cancel’ opens a preview of the record.

Delete

The ‘Delete’ option is used to confirm deletion from the live site of a local content item or an annotation. (Local nodes are removed from the tree by a separate procedure; see 3.4).

Formulary status changes

The options when reviewing proposed status changes are limited to ‘Ready to Check’ (in effect, still to be confirmed), ‘Ready to Publish’ (confirmed) and ‘Cancel’ (rejected).

3.3.3 Filters

Filtering using dropdown list: click the ‘Filter’ button after making your selection
The records displayed in the live and historical Publishing Queue can be filtered on the following fields:

- Formulary
- Document
- Document type
- User
- Status

### 3.3.4 View History

The ‘View History’ link on the live Publishing Queue page toggles the Publishing Queue to include records that have been published or cancelled.

### 3.3.5 View Live Queue

The ‘View Live Queue’ link on the Publishing Queue history page toggles the Publishing Queue to show just the records currently in the Queue.

### 3.3.6 View previous versions

If previous versions have been published, the ‘View previous versions’ link will extract the relevant history rows into a dedicated table with a ‘View’ link to each version.

**NOTE** When filtering or viewing previous versions the dropdown options are automatically reset to ‘All’ as the results list is returned, so to revert to the full history table just click the ‘Filter’ button.

### 3.4 Creating and editing local content

#### 3.4.1 Explanation of concepts

The word ‘record’ is used here to mean an accessible page with specific content. In FormularyComplete local ‘content items’ and ‘annotations’ are distinct components that an author can insert into a record. An *annotation* only ever appears in the formulary record within which it was created. A *local content item* is created independently of the formularies and is attached to one or more records in a separate operation.

The procedure for creating a local content item has two distinct strands:

1. Create the content item, i.e. title + text and/or file attachment(s)
2. Select the location(s) where the content item will be displayed (referred to as ‘targets’, though they function rather more like ‘anchors’!)
The order in which these actions are performed does not matter. However, when an item is first created, it must be given a title to identify it; and every such item must be attached to at least one node in the tree so that it occurs in at least one record.

NOTE The structure used to represent the taxonomy, or conceptual organization of the formulary records as a hierarchy, is commonly described by analogy to a tree, with the word ‘node’ roped in as a generic term to cover any of the starting-point (or root), branching points and the leaves at the extremities. A node can be thought of as a place-holder for a division of the content.

If a content item is only to be displayed within an existing record (or existing records)—similarly to an ‘annotation’—only the two steps above are required. If, however, it is to appear in its own right as an addition to the structure, the step of selecting the location must be preceded by the creation of a place-holder node in the tree—which will initially be an ‘empty’ node.

Nodes are identified in the tree by their titles (see Browse table of contents, above), and so to create a new record from scratch you have to think up two titles—a name for the node that will appear in the tree (aka table of contents) and a title that will appear as a heading to the content item.

NOTE When a user enters two characters into the general search, the dropdown offers a list of record (node) titles, but not content item titles. If you are adding a local drug record to the hierarchy and want it to be suggested in the search dropdown, use the drug name for the title of the node as well as for the content item, so that the two are the same.

3.4.2 The Local Record Editor

The Local Record Editor comprises

- on the left-hand side, a duplicate of the Annotation Editor (CKEditor), augmented by fields for linking to external documents and websites, to handle the creation and editing of local content
- on the right-hand side, navigation tools for selecting the target location(s) in which the local content will be displayed

To create a new local record or just create a new local content item to attach to existing records, click the Admin link, which is available at the top of all pages in FormularyComplete when the user is logged in with editor permissions, and select ‘Create/Edit Local Content’ under the Administration Options to access the editor.

To edit an existing local record, open the page in the formulary where the content appears and select the ‘edit’ link to start the editor (do not go via Admin ‘Create/Edit Local Content’). Bear in mind that your changes will affect any other record that has the same content item as one of its components; these records will be listed as existing targets in the bottom right-hand pane on the editor page.
Local Record Editor

NOTE Although the formulary tree view on the right-hand side closely resembles the table of contents, it cannot be used to open records for editing—it serves purely for attaching them to one or more nodes, as described below.

Creating a node (place-holder in the tree)

Follow the steps depicted in the screenshot below:

1. Under ‘Browse’ select the tree to which you will add the node (one or other of the formularies, or the document library) and then navigate through that tree to the record that is to be the parent of the new node
2. Right-click on the node title, which will highlight it and bring up the ‘Insert’ button beneath it; now click ‘Insert’
3. The new node will be created as the last (or only) node one level below the node chosen as the parent (its last ‘child’); overtype the default title, ‘New node’, with your chosen title.

The tree modifications do not currently form part of the publishing workflow, so adding a node is very quick; simply click away from the tree to save your addition. Your change means, however, that the tree has to be rebuilt, so you have to wait a few seconds while the software performs this operation.
Adding a node

Once created, local nodes in the tree can be removed, renamed or moved relative to other locally added sibling nodes by highlighting them in the same way as was done to insert them in step 2.

Moving a node

Note, however, that they cannot be moved upwards so as to come in between any BNF or BNFC sibling records.

Creating and editing a local content item

An example of how to use the Local Record Editor to create a content item with an external link is shown below.
Creating a document with a link

Files (e.g. Word, Excel, PDF) can also be imported into FormularyComplete, to be opened or saved from a link that becomes embedded in the records comprising the content item.

Once added, files and external links appear in respective lists of existing instances, from which they can be removed by ticking the corresponding checkbox and using the ‘Delete’ button.

Selecting target locations for local content items

Before a local content item can be saved (i.e. ‘published’), at least one target location must be selected—on the right-hand side of the editor screen.

Targets can be in either formulary or in the document library, but it is not possible to select nodes at the topmost level (these are pure divisions, without their own record). The target locations can be selected in the tree or via the search tab. However, these search tab results are not precise because a single drug may be the basis of several BNF records and, unlike the results of the general search, the path (e.g. chapter and section) is not included in the list of potential targets returned; you’ll probably find the tree better.
Select target: tick checkbox and click ‘Add Targets’

You may find that management and auditing of local content are facilitated if you include a target in the document library for each local record when it is created.

Saving a draft of a local record

You can save a copy of work in progress in the Local Record Editor by selecting the ‘Save Draft’ button at the top of the screen. This will save the content item and associated targets in the Publishing Queue, with the publishing status set to ‘Draft’. To resume editing, select the document link from the appropriate row in the Publishing Queue.

Publishing a local record

You can publish a record to the Queue for checking by selecting the ‘Publish’ button. Or, if you are a ‘publisher’, you can publish it immediately on the intranet by selecting the ‘publish immediately’ link.

By default, all ‘immediate’ publishing operations that bypass checking in the Publishing Queue will ask you to enter a password to confirm that you really wish to make the record live straightaway.

Deleting a local content item

When you select the ‘Delete’ button in the Local Record Editor, the content item is not deleted until the action has been confirmed in the Publishing Queue. Where an item has been used in more than one place, it is particularly important to consider the impact of its removal on all the records to which it has been linked.
If you are a ‘publisher’ and you select the ‘delete immediately’ link, the content item will not be deleted unless its links to other target records have been removed first. Generally, it is best to process deletions via the Publishing Queue.

**Appearance of edited records**

If you select an existing record as a target, the content item will be incorporated into the local content panel of the target record web page. (If this panel is not already present, it will be created automatically with an unassigned formulary status.)

A formulary record can be selected as the target for several content items. Items are simply added beneath any existing content in its local formulary content panel. An annotation and multiple content items can all appear in the same content panel. When you are logged on as an editor, you can drag and drop the different local content components to change their order.

If mixing annotations and local content items, it may be advisable to adopt an editorial policy to help with auditing (for example, by reserving the use of the annotation for certain types of information).

**NOTE** An annotation differs from a local content item in having no title when created. If you give an annotation a title, there will now be no visible difference to a basic user. As an editor, however, you should be able to tell the difference from the siting of the edit link on its own line, even if you move the annotation from its default position of first place.

**Effect of successive edits**

In the example above two different editor links—the ‘Edit’ button and edit—are showing because a local record has been incorporated, but no use has yet been made of the basic Annotation Editor. Use the edit link to call up the full editor again. Note the need to come up
with an informative title: a metadata sort of title, added merely to get the record to save in the Local Record Editor, as here, will not do!

Below you can see the effect of a local content item and an annotation together.

![BNF record with local content item and annotation (publisher view)](image1)

**BNF record with local content item and annotation (publisher view)**

A grey background is automatically applied to alternate elements in the box to differentiate them.

**Reordering local content items**

If you go on to add more local content items, the order of addition, in which they appear by default, will probably not be the order you want. If you are a ‘publisher’, you will find it remarkably easy to change the order of the elements in the box: simply click on one and then drag and drop it. The screenshot below was taken while moving a second local record upwards from the bottom.

![Reordering local records and annotation: in mid-move of a local record](image2)

**Reordering local records and annotation: in mid-move of a local record**
3.5 Advanced content management features

FormularyComplete offers

- the ability to create content that can be displayed in more than one location, and more than one formulary, and
- a taxonomy-based facility for local document management.

These components allow formulary managers to arrange their information in many ways. However, they also make it possible to muddle information in a way that is difficult to navigate and manage. Before extensive use is made of the advanced content management features, some thought should be given to how content will be organised and managed, and if there is more than one editor, the team members will need to agree on their approach.

3.5.1 Reusable content

A single update or correction to a local content item is applied immediately to all the instances where it appears. The main benefit of this feature is elimination of the need to copy and paste, and maintain synchronisation of, content that you want to be available to the end-user in several places. The Local Record Editor provides a list of all locations in which a local content item is used, so it is straightforward to check that after the master document has been edited the information remains relevant in all contexts in which it is used.

It is a good idea to give local content items a ‘target’ in the document library. This is particularly helpful when you are working through a batch of changes, and for audit purposes.

3.5.2 Using the document library

The document library tree is located on the home page of FormularyComplete. The local document library provides:

- A place to store documents that cannot be readily incorporated into the BNF content hierarchy
- A means of viewing and auditing local content—for example, to keep a record of all locally created content in a single place
- A taxonomy builder to enable you to create your own hierarchical local formulary structure—for example, where your local formulary is not organised around the BNF classification scheme
4  System manager guide: formulary settings, user accounts and reports

The Admin menu displayed to a user who has been assigned the ‘admin’ role in the system presents all the administration options as live links:

**Administrator functions list**

4.1  Editing and publishing

An administrator has the same full editing and publishing permissions as a ‘publisher’ (see above).

4.2  Manage home page

Version 1.10 added the option of creating a panel on the home page for your organization’s own announcements (see example below). The title and content are editable with the same CKEditor as used for annotations. The position of this panel is fixed, and it is advisable to reserve its use for brief, important notices so that content from RSS feeds in the ‘Health Information’ panel underneath is spotted by your users.
4.3 Adding local contact information and logo

‘Manage Contact Information’ brings up the basic editing tool used for annotations as a means of adding content to the Contact page.

‘Manage Logo’ imports your organization’s logo into the system for display in the top right-hand corner of the pages. You will need first to have a created a version of your logo that measures up to 265 pixels wide and up to 32 pixels deep and is saved in .gif file format. The logo area is principally intended for an emblem; please bear in mind that web graphics file formats do not present lettering as sharply on the page as the font rendering engine that displays HTML text.

NOTE It is possible to change the picture on the FormularyComplete home page, but not via the user interface. To replace the image, you must resize your own jpeg to 509 pixels by 339 pixels and name it home.jpg. You can then use this file to substitute C:\Tomcat6.0\webapps\bnf\resources\images\home.jpg (where C is the drive where FormularyComplete resides on your server).

4.4 Manage Formulary

The Manage Formulary admin screen allows the BNF and BNFC to be renamed when you adapt them to create your own local formulary.
It is also possible to hide either of these formularies. Unchecking ‘Show’ will remove the formulary tab from the top bar. However, although the formulary starting page will no longer be available, the general search results and related information will still include links to the hidden formulary.

Click ‘Update’ to apply amended settings.

### Manage Formulary Status

The Formulary Status admin screen allows the name, colour code and abbreviation for up to ten statuses to be determined locally. The first three have default settings. In the screenshot the first of the seven unset options has been turned into ‘Paediatric’ and another has been used for a specific type of restriction—‘Hospital Initiation’.

Click ‘Update’ to apply amended settings.
4.5.1 Deactivate

The effect of checking ‘Deactivate’ on an active status is merely to remove it from the selectable status options. Records that have already been accorded that status will retain it, although the status can no longer be assigned to other records.

NOTE If you subsequently amend the status definition, your changes will be applied to all records to which it was previously assigned.

4.5.2 Discard

The effect of checking ‘Discard’ is to make the status ‘Not Used’.

NOTE The status is removed from all database records that bear it, and this change is irreversible. You should consider asking your IT department to make a database back-up before attempting to alter the formulary status classification system that you use.

Three settings for defined formulary statuses

4.6 Managing users and roles

The Manage Users screen is a list of links to user account information, arranged by the users’ names. The list is pre-populated with some dummy users (whose passwords will be supplied to administrators on request).

Existing users’ details can be altered by clicking on the user’s name. New users are added via a link in the top right-hand corner of the Manage Users screen.

The Create New User and Edit User screens are much the same. Each allows the entry of the same basic information about the user and presents a series of checkboxes that are used to assign privileges to users.

NOTE To change the default admin user details, you must log on as admin (= Joe Admin), create a new admin user (e.g. your name), log off, log on afresh as yourself, and then change Joe Admin’s password or inactivate the account. Do not try to amend the user account under which you are logged on. You should keep a note somewhere of the admin passwords after changing the default.
Create a user

The user roles are:

- **Admin**: A person responsible for system settings—for example, the selection of default display options and assignment of other users’ roles
- **Publisher**: A user with permission to publish local content for display to the other users of the system
- **Author**: A user with permission to create and edit local content and set formulary status
- **User**: Typically a clinical end-user, who has read-only permissions

### 4.7 Manage RSS Feeds

The purpose of the ‘Health Information’ panel on the home page is to make users aware of alerts issued by external organizations via news feeds. Up to three RSS or Atom feeds are accepted (see examples in the following screenshot), and the home page will display the five most recently posted items from each feed URL inserted in the table.

While it is not mandatory to populate the ‘Health Information’ panel with any feed, the panel cannot be deleted altogether, unlike the optional noticeboard (section 4.2, above).
4.8 Reports

Formulary reports and two extensions to the audit trail provided by the Publishing Queue (for archived content and local hierarchy changes) are available by clicking the appropriate ‘Select’ button on the Reports page. The September 2017 (version 1.24) update added two further exports to be used to facilitate the reproduction of locally added content within the new data structure of the BNF and BNF for Children.

Report selector

4.8.1 Local formulary reports

Reports listing the records in the database according to formulary status can be generated on demand. The primary purposes that these reports are intended to serve are:

- publication of a NHS trust’s local formulary on its website, to comply with DoH requirements
- demonstration of implementation of NICE TAs
- internal needs for ad-hoc summaries of formulary information

The default format of the results file is platform-independent, tab-delimited text, which can be opened and edited or reordered in a word processor, such as Word, or a spreadsheet application, such as Microsoft Excel, or imported into another database for further processing. If you have non-drug records with statuses assigned in FormularyComplete, such as BNF sections, you have the opportunity to edit these out of a report before publication.
From version 1.11 you can choose to output the reports as PDF or HTML files instead and save them to your local computer. Although files in these formats are not readily restyled, limited adjustments are possible after export, e.g. with professional editions of Adobe Acrobat or by using Microsoft Word to edit HTML files opened in Internet Explorer.

**Generating reports**

At the top of the formulary report selector, choose the formulary that is to be the source of the report.

In the next box select ALL or a specific chapter (only the former is applicable to Documents).

<table>
<thead>
<tr>
<th>Select Source</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ St Mark</td>
<td>☐ BNFC</td>
<td>☐ Documents</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Central nervous system</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select NICE technology appraisal (TA) information</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ TA applies ☐ NO TA applies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select Formulary Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ On Formulary</td>
</tr>
<tr>
<td>☒ No formulary status (monographs, preparations and local content)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select Order</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Formulary Status</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Select File Format and Annotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Tabbed Text</td>
</tr>
<tr>
<td>☐ Include local annotation text</td>
</tr>
</tbody>
</table>

**Formulary report selector**
The BNF provides summaries of NICE guidance with links to the NICE Technology Appraisals (TA) where the TA supports the use of a drug (at least in certain conditions). It is possible to include identification of applicable TAs in these reports. If you do not wish to include this information in the report, uncheck both boxes in the second selection panel, or to limit the scope of the report to records to which no TA applies anyway, uncheck the first.

NOTE When the ‘TA applies’ checkbox is ticked, the output will include a row for each association of a drug with a NICE web link. This means that for drugs to which more than one TA applies there will be multiple rows for the same drug record in the output. Thus, the options selected in the screenshot will list all the drugs adopted by a trust into its formulary, but some will be repeated.

In the fourth selection box (‘Select Formulary Status’) the ‘Not Used’ checkboxes correspond to optional additional local formulary statuses and will return no results unless custom statuses have been defined and activated on the ‘Manage Formulary Status’ admin page. To obtain a list of drug records that have as yet had no status assigned to them, select the ‘No formulary status’ checkbox. So, for example, if you wanted to check which drugs are covered by a NICE TA but have not been implemented in your local formulary, you could select ‘BNF’ (or here ‘St Mary’), ‘TA applies’ and then (depending on your local status definitions) probably ‘Off Formulary’ + ‘No formulary status’.

The fifth panel allows you to choose a report grouped by status, with the drugs of each included status ordered alphabetically, or a ‘Hierarchy’ report generated in the same sequence as the BNF publication content (only the former is applicable to Documents).

The last box offers a choice of three file formats (see above). You can also include the content of annotations and any attached local records as an additional column in the reports. This may, however, substantially enlarge the size of the output file and prolong generation time. To avoid timeouts you are advised to run PDF exports chapter by chapter, rather than attempt to generate a PDF of the whole formulary in a single pass.

NOTE If you have added a sequence of local content elements (local content items with or without one annotation) to a record and select ‘Include local annotation text’, your separate content additions will all appear in the ‘Annotation’ field of the report, but their order may not be the same as on the record page if you have left them in the default order (the reverse order of creation). The sequence will be preserved in the report provided that you have arranged them (see ‘Reordering local content items’, above).

**Example of formatting report in Excel**

The easiest way to open a report file with Excel is to associate the TAB (or .tab) file type with the application once and for all, and from then on use the Windows right-click menu to open any such file. Navigate to the folder where you put the report and right-click on the file. If you see the option ‘Open with’ and the options offered include Excel, this type of file is already associated with Excel on your computer, and so just selecting the Excel option will open the file for you. If you see ‘Open’, but not ‘Open with’, then when you click ‘Open’ you can choose to select the application from the list of those installed on your machine. Click OK. You can now either pick Excel from the shortlist of icons at the top of the next dialog box or else browse to it in the Microsoft Office programs directory. Checking ‘Always use the selected program ...’ before clicking OK means that Excel will be offered by ‘Open with’ on the right-click menu the next time you want to open such a report.
If these steps turn out to be impossible to follow, the most likely reason is the software configuration of your work computer, and you should seek the advice of your local IT team.

In the screenshot below the raw output is for the whole local BNF, including both ‘TA applies’ and ‘NO TA applies’ records and comprising three statuses (On Formulary, Restricted and Paediatric), but omitting annotations. The output order was by formulary status. The .tab file has been opened and saved in Excel, then the first two rows have been deleted, the point size set at 8 for the BNF path column and at 9 for the others, the row height increased to 35, the alignment set to Top, Left and Wrap text, and the column widths adjusted. Then the font of the statuses was coloured and the whole worksheet resorted on Column A to create a single alphabetical list.

Excerpt from status report in Excel

The cell dimensions will need tweaking to ensure that rows fit on an A4 page, and this will require iterative trials with the Print Preview. Once a format is established, the parameters should be noted and reused for future data exports.

4.8.2 Hierarchy change logs

Actions on the tree structure—that is to say, the creation and deletion of nodes—are not subject to the Publishing Queue approval process and, consequently, are not recorded in the History. BNF nodes may be added or removed by the BNF editors, and nodes that are inserted into the tree locally can be subsequently renamed, moved or removed by any of the local editors. The two reports described below are intended to ensure that a log of local node actions is accessible to the formulary manager (thereby rectifying their omission from the content History) and, specifically, to highlight what local content has been affected by the deletion of nodes.
**Archived content report**

Local content can lose its place in the BNF or BNFC tree structure during a regular update as the result of changes made by the BNF editors since the previous edition, as well as at any time when a formulary author or publisher removes a node that has been added locally. This report should be inspected after each quarterly update.

**Local hierarchy changes**

Select this to see the log of local node actions (i.e. creation, deletion, moving and renaming).

From V1.13 this log also records the creation of targets, i.e. the attachment of local content items to individual nodes or their removal from them.
5 Support

5.1 Getting help

5.1.1 Account enquiries

For customer services (such as account queries) telephone your account manager at

Pharmaceutical Press
Royal Pharmaceutical Society
66–68 East Smithfield
London
E1W 1AW

If you have do not have the account manager’s direct phone number or there is no reply, please call +44 (0) 20 7572 2266.

5.1.2 Technical assistance

Additional information on using the product is freely accessible at our support site

https://pharmpress.zendesk.com/home.

To search for articles on software issues or report a problem, you need to register at this site. (Registration merely involves setting up a password and associating it with your email address in order to protect the site from spam.) Any user of FormularyComplete is entitled to use the support service, but it is normal for support requests to be submitted to us through a local system administrator. Note that the resolution of technical issues may require liaison with IT staff in your organisation who manage the server.

Should you be unable to use the web form to log a request, you can email pharmpress-support@rpharms.com instead.

Please call the telephone number given above should you need to alert us to a technical fault with the support site itself.

5.2 Helping to improve FormularyComplete

An online user forum enables FormularyComplete users to exchange notes on their use of the product and raise issues with the publishers and software developers.
6 Glossary

Annotation

An annotation is a note placed in a BNF or BNFC record. Annotations are associated with a single record and are not reusable.

BNF

British National Formulary.

BNFC

BNF for Children.

Document library

A user-definable taxonomy for the organization of documents, links and other information.

FormularyComplete

The Pharmaceutical Press formulary management platform.

Local content item

A local content item is a reusable addition to the database. It comprises a title together with text and/or file attachments. Content items can be created and managed via any of the taxonomies in the system. They can be reused by including them in an existing record or inserting them into a new node in a tree.

Node

A placeholder for a record in the taxonomy.

Record

A division of the content that has an HTML (web) page of its own.

Taxonomy

A hierarchical data structure for organizing content, typically represented as a tree.