ERN Virtual advisory boards

European Reference Networks (ERNs) are virtual networks involving healthcare providers across Europe. They aim to tackle complex or rare diseases and conditions that require highly specialised treatment and a concentration of knowledge and resources. To review a patient's diagnosis and treatment, ERN coordinators convene 'virtual' advisory boards of medical specialists across different disciplines, using a dedicated IT platform, CPMS.

Figure 1.ERN

Clinical Patient Management System, CPMS, is a secure web-based application to support European Reference Networks in the diagnosis and treatment of rare or low prevalence complex diseases or conditions across national borders. The main objective of the CPMS is to provide tools for virtual consultation and collaboration.

Virtual consultation process:

ERNs' virtual consultations are done through the CPMS IT platform, these advisory boards follows a series of steps listed below. In these boards experts across Europe are invited to collaborate in a consultation panel for a particular patient.

The first step in a virtual consultation, is to enrol the patient in the CPMS platform. The patient enrolment has to be done by any authorized Health Professional from the centre.
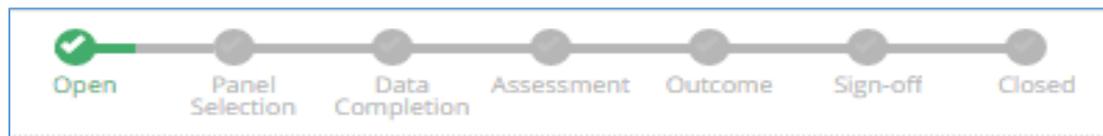

Figure 2. Open a panel: Stages in the consult process

1. Open a panel: Consultation form

In order to open a new panel, a consultation form has to be filled with all the clinical information of the patient.

There are different sections in the form, some of them specific for transplantation. This form can be edited as deemed necessary by any authorized Health Professional in that particular medical centre.

Figure 3.Consultation form

(consultation form), and is available to be viewed by the whole panel.

4. Assessment

During the 'Assessment' stage the Panel can all make contributions to the case, by commenting on the textboxes or attaching files. The Panel Member can also view the other panel members' contributions and request additional information of the patient.

Figure 5. Record contribution/ request additional data

At this stage the panel lead or a panel member can schedule meetings. During the meetings any of the members can record their contribution, share the screen, upload files etc.

2. Panel Selection

The panel lead is the responsible of the transition workflow, invite members to the panel and sign off the outcome document. By default, any authorized Health Professional in a given centre, who opens a Panel, will be assigned as a Panel Lead unless otherwise, the Panel Lead role has been switched to another HP.

At this stage The Panel Lead, can form the panel by inviting other Health Professionals of the network to join. Guests and other ERN members can also be invited to the panel.

It is recommended to request the assistance of the coordinator who will help the leader to select the most suitable members for that specific panel.

Figure 4 Panel Selection

3. Data completion

In the 'Data Completion' stage, the clinical data is completed if not previously done so

5. Outcome

After the assessment has been completed and the contributions have been recorded, an outcome for the panel must be considered and decided upon.

The Panel Lead records the outcome at this stage and the rest of the panel have the opportunity to view and comment on it.

6. Sing-off

In the 'Sign-Off' stage, the Panel Lead confirms the outcome of the consult process. Once the outcome is signed-off the panel can be closed, and the outcome can no longer be edited.

7. Closed

Once the outcome has been signed-off, the panel can be closed. Only the Panel Lead can close the panel and he/she must first complete the 'Transition to Close' form.

CPMS Applications:

For these advisory boards to be possible, there are two main applications in CPMS: **Centre**, where the user can enrol patients and open panels for any of the patients in the centre; and the **ERN** application, where users can actively participate in the ERN consultation panels, attend meetings, view webinars etc.

Moreover, there are other tools available on CPMS that can be useful in the consultation process such as user manual, CPMS training webinars, informative documents, and map for the ERNs.

All the CPMS applications and tools can be found in the main general dashboard separated in three different sections:

1. Applications: here the user can access the three available applications of the CPMS platform
2. Training videos: the user can find webinars regarding the CPMS functions in this section.
3. CPMS user manual and documentation: all the important documents such as the manual user, the informed consent and others will be uploaded in this section.
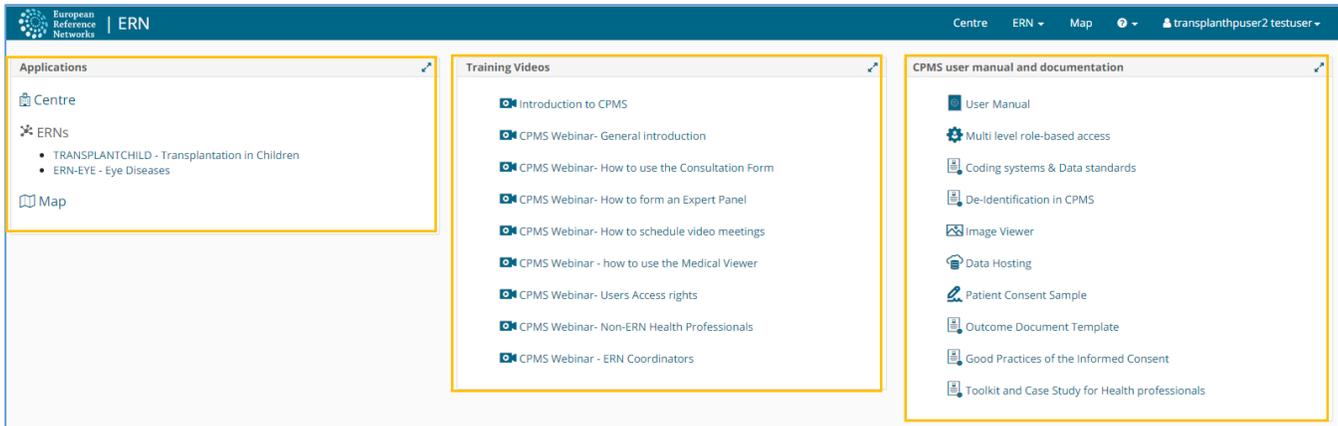

Figure 6. General Dashboard: sections

1. Centre

Clicking the tab "Centre" it will access to all the information of the user's centre/ hospital. The Health Professional can enrol patients and open panels for virtual consultation from this application.

There is a side menu on the left, which facilitates quick navigation CPMS's features. There are four different tabs in this menu, Dashboard, Enrol Patient, Patient List, Panels.

1.1. Centre Dashboard

1. The 'Patients' box contains links for the user to enrol a new patient to the system and to view current patients in their centre.
2. The search feature allows the user to quickly find a particular patient, based on their first name, last name, CPMS ID, panel ID and nickname.
3. The 'Recent Activity' section lists the latest patients to have been enrolled or to have had their data updated. Clicking on the patient ID will direct the user to that patient's page.
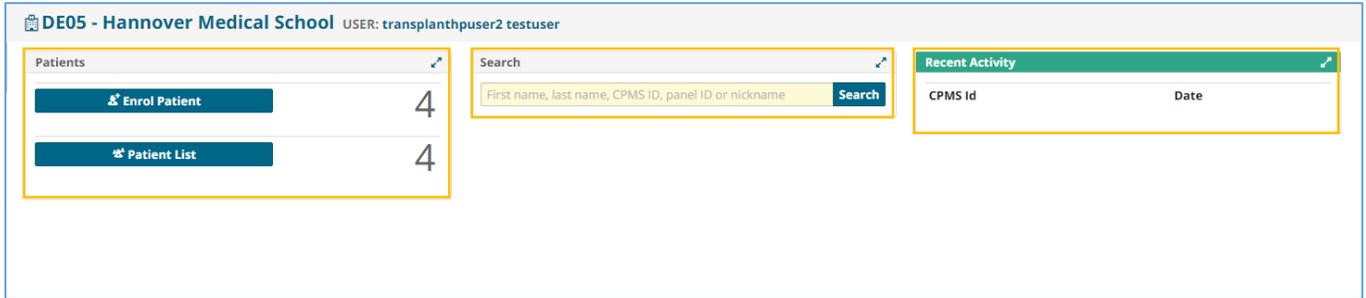
Figure 7. Centre Dashboard

1.2. Enrol a Patient

In order to enrol a new patient for a certain medical centre, the enrolling Health Professional can click on either of the 'Enrol Patient' buttons on the centre dashboard. Basic information of the patient has to be entered in this page. These fields can be changed or deleted at any moment if the patient withdraw the consent.

Note that all authorised users from this centre can see all patients enrolled within this centre regardless of enrolling user.

1.3. Patient List

To open a panel for a newly enrolled patient, any authorized Health Professional from the enrolment centre can simply click the 'Open New Panel' button.

All the patients enrolled from the centre will be found in this section, the table includes basic information such as enrolling date, the gender and the date of birth.
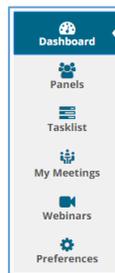By clicking a patient's name it will access to a list of the panels that that particular patient has.

1.4. Centre Panels

In the Panels section there is a summary list of all the panels opened in the user's centre, the list includes basic information of the panel: the nickname, the panel lead, the start date, the state of the panel, and the thematic area.

2. ERN:

In the ERN application it will appear the ERN the user belongs to, in this section all the information regarding the panels and activities of the network is available. There is also a side menu that facilitates the navigation.

2.1. ERN Dashboard

The ERN Dashboard is a summary of the activity on the network within the CPMS platform. It can be found different boxes with:

- The panel invitations
- My panels
- Urgent panel
- Contributing panels
- Member's task list: contains a list of pending tasks awaiting the user's interaction.
- My meetings: information of the scheduled meetings

Basic information of each section is available in this overview of the CPMS network activity.

Panel Invitations		
You have no unanswered invitations at this time.		

Urgent Panels		
There are no urgent panels.		

My Panels		
Panel ID	Date	Nickname
#202	19/10/2017	sd2
#24	12/07/2017	hannove_1

Contributing Panels		
Panel ID	Date	Nickname
#25	13/07/2017	TestUser
#195	17/10/2017	niña_IDP_1
#199	18/10/2017	hannove_1

Member Tasklist	
Nickname	Task
#98 twest_3	You have been invited to join this panel. Please A...
#195 niña_IDP_1	Please review the data that is provided for this Panel.

My Meetings
You are not scheduled to attend any meetings.

Figure 8. ERN Dashboard

2.2. ERN Panels

In the panels tab there is a list of all the panels of the Reference Network. In the list it can be seen the information of the centre, panel lead and thematic area of each panel.

There is the possibility to filter the panel list, asking the platform to only show those panels in which the user is the leader or the panels in which the user is contributing. The user can also include in the list those panels that have been aborted or archived.

2.3. ERN Task-list

The Task List in the ERN dashboard contains a list of pending tasks awaiting the user's interaction. Those tasks range between different activities such as:

- Respond to an invitation to a Panel
- Respond to an invitation to a meeting
- Record a Contribution in a Panel
- Record a meeting summary
- Review an Outcome document
- Check final outcome document

2.4. Meetings

Meeting can be schedule for specific panels: in this tab the upcoming and past meeting will appear in a list.

2.5. Webinars

In the webinar tab there are recorded and live webinars related with the ERN thematic area.

2.6. Preferences

In this section the Health professional has to set his professional role and the thematic area the user is interested in.