Deliverable 3.1 MyCare-_{E-QUOL} system

Functional description & technical design of the mobile application

Resilience

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Glossary

OTP code (One-Time Password):

A temporary, single-use code sent to a user (via SMS, email, or app) to verify their identity during authentication. It enhances security by ensuring that only the rightful user can complete the action.

CTA button (Call-To-Action button):

A button on a website or app designed to prompt the user to take a specific action, such as "Sign up", "Download", or "Learn more". It guides users toward key interactions in a digital experience.

T&C (Terms and Conditions):

A legal agreement that outlines the rules, responsibilities, and rights of users and service providers. Users must accept the T&C before accessing or using a product or service.

Baseline:

First patient log-In.

1 Patient onboarding and login

1.1 Onboarding: guide the patient towards the right log in

1.1.1 APP LAUNCH

When a patient opens the app, whether it's their first time or a subsequent login, the home screen offers several options:

- **"Start"**

- **"I already have an account"**

Both options redirect to the screen allowing the patient to choose between the monitored or non monitored sign up flow.

1.1.2 MONITORED OR NOT MONITORED FLOW SELECTION

During onboarding, the patient is asked to indicate whether they have been Invited by a care team member. If they select "I have been Invited by my care team", they are guided through the dedicated identification process. If they choose "I downloaded the app on my own", they are redirected to another onboarding flow where they will be asked to create an account (this flow Is not the one eQuol participants need to use, explanations should be delivered by the care team at Inclusion). A help option is also available from this screen, offering additional support if needed.

At any step of the onboarding process, patients can tap the Help button to access a dedicated assistance screen. From there, they can choose to contact the Resilience support team by selecting "Write us". This opens their default email app with a pre-filled message, including their device model, operating system version, and the current version of the app. The email is addressed to support@resilience.care and titled "Support mobile application onboarding".

For quick access, patients can also copy the support email address or the app version number to their clipboard by tapping "Copy" next to each item.

If the Help screen was accessed from the phone number, 6-digit code, or notification settings screens, an additional link is available: "Having trouble accessing your questionnaire?" Clicking this link opens the web version of the patient login page directly in their mobile browser.

Returning to the previous screen can be done by simply tapping the back arrow.

1.2 Sign In / log In

1.2.1. IDENTIFICATION WITH MOBILE PHONE NUMBER

At the start of the identification process, the patient can select their country's international prefix using a dropdown list. Once a prefix is selected, it appears in the designated field, the dropdown closes, and the phone number placeholder updates to reflect the correct format for the selected country.

When the patient taps the phone number field, the numeric keyboard appears. As soon as a valid number is entered—according to the chosen country code—the "Validate" button becomes active. If the number is invalid, the button remains inactive. Should the patient change the prefix after entering a number, the field is automatically cleared to avoid mismatches.

Once a valid number is submitted by clicking "Validate", the patient is redirected to the screen for entering the 6-digit code received by SMS. Simultaneously, a one-time SMS code is sent to the provided number. If the number does not match the expected format or is incorrect, an error message is displayed via a modal window.

Navigation Options

From this screen, patients have several navigation options. Clicking the back arrow returns them to the screen where they choose between the two log in flow. A "Help" button allows access to a dedicated support screen.

In case of an error (for example, an invalid phone number), the modal offers two choices: "OK" to close the message or "Contact support", which redirects to the Help screen.

Patients who have already completed onboarding and previously logged in are directed straight to the identification screen when reopening the app, skipping the initial orientation steps. This helps streamline the process for returning users.

1.2.2 LOG IN WITH OTP CODE

After entering their phone number, the patient receives a six-digit code received by SMS. If the device supports SMS autofill, a system prompt suggests automatic code entry. If accepted, the code is filled in automatically and authentication is triggered without further action from the patient.

Alternatively, the patient can manually enter the code. As each digit is typed, the cursor moves automatically to the next field. Once all six digits are entered, the keyboard closes and the "Validate" button becomes active, allowing the patient to proceed. If the code is incorrect, an error message appears prompting the patient to try again.

If needed, the patient can request a new code by tapping "Send again." A new code is sent by SMS, and a countdown timer appears, preventing another request for 2 minutes. The message updates in real time to show the remaining wait time.

At any point on the code entry screen, the patient can return to the phone number input screen using the back arrow. A help button is also available to access the support section if they encounter difficulties.

Once the code is validated, the app checks the patient's onboarding status:
- If the Terms & Conditions have not yet been accepted, the patient is redirected to the Terms & Conditions screen.
- If the Terms&Conditions are already accepted: the patient proceeds to the Push Notification opt-in screen (if this step is pending),or directly to the Journal section if all previous steps are done.

This logic ensures a seamless and progressive onboarding based on each patient's status in the clinical trial workflow.

1.2.3 PUSH NOTIFICATION LOADING SCREEN

When the patient has not push notifications opt-In yet, a screen will Invite him to activate push notifications for the app. If the patient accepts It will then be able to receive notifications, for example notification Informing him that a new questionnaire Is available.

If the patient refuses to activate the push notifications he won't receive any notification. He can manage his choice Is his mobile phone settings.

1.2.4 LOADING SCREEN

Before arriving on the app journal (main screen), a loading screen appears to the patient with a message personalized with the patient's first name. When the loading screen closes, the patient Is redirected to the app journal.

2 Journal

The Journal serves as the central access point for patients within the digital application, consolidating personalized content and key features. Its behavior and accessibility are consistent across various user journeys.

2.1 Access to the Journal

The Journal screen is the default landing page following:
- Successful authentication
- Completion of onboarding, including account creation

The Journal is also accessible at any time through the app's main navigation menu. If a user's session has expired, they are prompted to log in again; once authenticated, they are redirected to the Journal screen.

2.2 Visual and Navigational Feedback

When the Journal is active, the corresponding navigation item (e.g. tab or menu entry) must display a highlighted or filled state, clearly indicating the screen's active status.

This applies regardless of whether the user landed on the Journal by login, onboarding, or manual navigation.

2.2.1 JOURNAL INTERFACE COMPONENTS

Upon arrival on the Journal screen, users are presented with a header containing the following elements:

- A personalized welcome message, using the patient's first name
- A section title: "For you today"
- A button to access favorite articles
- A search bar for exploring available content
- As the user scrolls down, the interface adapts to prioritize content:
- The main header disappears to maximize visible space
- A sticky top bar remains fixed at the top of the screen, ensuring continuous access to core actions. The favorites button always remains visible within this sticky bar, preserving easy access to saved content.

This structure ensures a consistent, accessible, and patient-friendly experience while navigating through the Journal and its associated features.

Loading

When a patient accesses their journal, loading skeletons are displayed while the questionnaires are loading and the "Suggested for you" section are in progress. The Content recommendations* and Next best action sections are only shown if their contents are succesfully retrieved from the backend; if the response is empty or fails, the sections remain hidden without affecting the display of questionnaires. Questionnaires can be displayed as soon as they are available, without waiting for other data.

These are content recommendations based on the needs identified in the journal. Once the patient completes their needs questionnaire, a selection of tailored advice appears immediately. If they close this selection, they can find it again later in the journal for future access.

2.2.2 JOURNAL SECTIONS AND ORDER

The journal is structured around different sections that are organized in this order:

- Top bar
- Questionnaires
- Needs-based content recommendations displayed as a carousel
- Next Best Action
- Suggested content
- App redirection (via tab bar menu)

2.3 Questionnaires

2.3.1 QUESTIONNAIRES: GENERAL DISPLAYING RULES

Patient Journal Display Logic

When a patient enrolled in the app opens the app journal, available questionnaires are presented in a clear and user-friendly format. All questionnaire cards appear in a single vertical stack, following this order:

- PAM-13 questionnaire
- EORTC-AYA questionnaire
- Needs assessment

If the patient has already answered one or more questionnaires, the answered cards are moved to the bottom, while unanswered cards remain at the top, preserving the original order. The interface must ensure clear visual differentiation between completed and pending actions, avoiding any ambiguity about next steps.

Questionnaire Availability States

Depending on the status of each questionnaire, different behaviours and messages are expected:

- Before the release of the first questionnaire:

  If a questionnaire is configured but the initial questionnaire is not yet available, a placeholder card is shown. It informs the patient that the questionnaire will become available soon. No action is expected at this point.

- Partially completed questionnaires:

  The QLQ-C30 is the only questionnaire that can be fully completed in more than one sitting. If a questionnaire has been started but not finished, its card updates automatically to prompt the patient to resume and complete it.

- Recently completed questionnaires:

  Once a questionnaire is fully completed, the corresponding card switches to a confirmation state, indicating that no further action is required.

Error Management

In the event of a technical failure affecting both the legacy and current questionnaire APIs, an error card must be displayed to the patient. This card should clearly explain that the system was unable to retrieve the questionnaire data due to a connectivity or backend issue.

2.3.1.1. QUESTIONNAIRES STRUCTURE - GENERAL

The questionnaires are divided into several steps:
- An introductory screen identifying the questionnaire, explaining its purpose and how long it will take to complete.
- Questionnaires can be divided into modules to pace completion, particularly in the case of long questionnaires such as the QLQc30. When a questionnaire is divided into modules, a screen opens and closes each module.
- A screen at the end of the questionnaire for sending responses.
- A screen confirming that the questionnaire has been sent.

Some questionnaires can be interrupted during completion and then resumed later (the QLQc30), subject to a predefined timeframe. This option can be activated when setting up the questionnaire.

After sending a questionnaire, the user is always redirected to the application journal.

2.3.1.2 PAM-13 QUESTIONNAIRE

The PAM-13 questionnaire will be displayed at baseline and opened automatically as soon as the patient ends the onboarding flow to ensure maximum completion.

The PAM-13 will be sent again 6 months after first completion.

The completion is mandatory at the inclusion (baseline): neither the questionnaire in its entirety nor the questions Individually can be skipped.

After PAM's completion, the patient will be redirected to the app journal and will be able to access other available questionnaires or content.

The details, structure and translations of the PAM must be provided as results of WP5 tasks.

2.3.1.3 EORTC-AYA

The EORTC-AYA questionnaire will be displayed in the app journal at baseline and will be sent again 6 months after first completion.

The completion is facultative: the questionnaire can't be skipped in its entirety, but the questions can be skipped individually.

After EORTC-AYA completion, the patient will be redirected to the app journal and will be able to access other available questionnaires or content.

The details, structure and translations of the EORTC-AYA must be provided as results of WP5 tasks.

2.3.1.4 NEEDS ASSESSMENT

The Needs assessment will be made available in the app journal at baseline and then monthly. It consists in one multichoice question listing various needs items. The patient can select from 0 to all items. The answers will feed the recommendation algorithm to enrich content recommendations pushed to the patient in the post questionnaire flow.

After completion, If the patient declared at least one need, he will be redirected to the post questionnaire flow to consult the associated content recommendations.

The details, structure and translations of the Needs screener must be provided as results of WP2/3 tasks.

2.4 Content recommandations after needs assessment

After completing a questionnaire, patients access personalized recommendations, which can take the form of **individual content items** (such as articles, videos or modules) **in the form of a carousel**. This feature is also referred to Post Questionnaire flow. The interface and user flow are designed to support intuitive navigation, feedback, and content engagement.

The display of needs-based advice within the patient journal depends on the patient's declared needs and the availability of relevant content.

Patients are considered eligible for advice only if they have:

- Reported at least one need, and

- At least one piece of advice content exists that corresponds to a reported need.

While the post questionnaire flow is triggered directly after the needs assessment, the patient can close the flow and find this content on the journal anytime.

This logic ensures that patients only receive relevant, actionable advice, while avoiding unnecessary or empty interfaces.

Each time the patient answers a needs assessment, the personalization algorithm processes new set of content based on the needs declared. The recommendation of content in the post-questionnaire carousel is designed to push fresh content even when the declared needs remain the same over time. For the same need with multiple associated content items available in the database, the algorithm will push content that has not yet been read, thus avoiding pushing the same content redundantly when other content is available, ensuring a livelier experience over time.

2.4.1.1. CONTENT RECOMMENDATION : PRESENTATION LOGIC

When at least one content recommendation is available (i.e., content exists for a reported need, and at least one piece of content remains unread), the following interface is shown for each need:

- An introduction screen with a title and descriptive paragraph

- Up to 2 Individual content Items

- Up to 1 content module

Patients can:

- Swipe left or right to move between content recommendation
- Navigate freely between previously viewed advice

Opening and Viewing a Unique Content Item

When a patient chooses to open an individual content item from the recommendation carousel, the selected content is displayed in full-screen mode. The patient can either read the article or play the audio/video, depending on the format. Interaction options are available, allowing the user to like or dislike the content, and to add it to their list of favorites. A cross icon in the top navigation bar allows the patient to exit the content view and return directly to the carousel of recommendations.

2.4.1.2. COMPLETION AND EXIT BEHAVIOUR

Upon reaching the end of the post questionnaire flow (i.e., all relevant personalized contents have been reviewed), a final screen is displayed with a title, a paragraph of conclusion or encouragement and a button to end the advice experience and return to the journal.

This final screen is also accessible via the scroll bar and remains clickable at any time.
If the patient attempts to exit the advice flow before reaching the final screen (by clicking the close icon in the top-right corner), a confirmation modal appears containing a button to confirm and return to the journal.

However, if the exit icon is clicked while already on the final screen, the patient is immediately redirected to the journal, and no modal is shown.

2.5 Personnalised content: "Suggested for you" section

2.5.1.1 "SUGGESTED FOR YOU" SECTION BEHAVIOR

The "Suggested for you" section presents a personalized selection of recommended content based on the patient's profile and activity. A maximum of 15 items is displayed, corresponding to the first 15 results

returned by the recommendation API. Once a piece of content is opened by the patient, it remains visible in the list to preserve context and avoid disrupting the user's navigation experience.

The underlying recommendation algorithm must be refreshed at key moments in the patient journey to ensure the suggestions remain relevant. Specifically, updates are triggered in the following situations:

- When the application is launched, whether via manual or automatic sign-in

- Immediately after the completion of a questionnaire

- Following any update to the patient's profile information

- This dynamic update logic ensures that the recommendations reflect the most recent clinical and personal data available for each patient.

2.5.1.2 PERSONNALISATION RULES FOR THE "SUGGESTED FOR YOU" SECTION

The list of content eligibility criteria displayed in the app Is by default: Cancer Type, Recidive Status, Metastasis Status, Gender, Organization (HCP), Research Study. If some of these data are not collected, they won't be used as eligibility criteria.
In the Content Management System, the content must be tagged as recommendable (meaning the content can appear in a section where personalized content is displayed).

Content order is defined according to a score based on an algorithm in order to be as relevant as possible according to patient needs. This score is calculated on the basis of the criteria that a content and a patient have in common. The more criteria they have in common, the higher the score, the more likely the content will be positioned at the top.

The score computes the affinity between the patient and the content. Weight is added every time the patient and the content match on a specific criteria. Criteria after criteria, all the weights Is additioned and to give a total score based on rules for each criteria.

- A score is computed for each content - patient association. Then the scores are ranked by descending order for all the contents available for a specific patient; the top ranked contents are the ones to recommend to the patient.

Criteria taken into account (when collected and relevant):

- Cancer Type
- Metastasis Status
- Recidive Status
- Treatment Type
- Treatment Stage
- Hormonotherapy Status
- Age
- Gender
- Organisation
- Research Study
- If a patient has already read a content

If some of these data are not collected, they won't be used as eligibility criteria.

When a patient opens an article from the "Suggested for You" section in the journal, they will see a list of up to three unread recommended articles at the bottom of the page. These articles are chosen randomly. If there are fewer than three unread articles, only one or two will be shown. If the patient has read all recommended articles, this section will not appear. If an article is opened by the patient, a new one will replace it.
The recommendation algorithm is updated each time a new criteria is updated.

3 Library

3.1 Library main screen structure

The library main homepage Is the main point of access to the content. It is opened when the user clicks on the library item in the tab bar menu. The following sections are displayed within the header:

- A title : "Library"
- A button for accessing favorites articles
- The search bar

The different sections of the library are displayed as follows:

- Search

- Highlighted content (same for every user)

- Content categories. The list of categories is variable according patients and articles for which a patient is eligible. If articles and content modules are not available within a category for a patient, then the corresponding category Is not displayed.

3.2 Medical profile questionnaire

3.2.1 ACCESSING THE MEDICAL PROFILE QUESTIONNAIRE

The Medical profile questionnaire consists In 3 questions aiming to complete the medical profile of the patient to push personalized content. The questionnaire is displayed when opening the library for the first time.
Questions are displayed with empty fields (no pre-filled answers).

If the patient has previously logged in and then reinstalls the app: upon reopening, the patient accesses the Medical profile Questionnaire again. Previously completed answers are pre-filled.

3.2.2 NAVIGATION WITHIN THE QUESTIONNAIRE

The patient progresses through the questionnaire by clicking "Next." If they are on the first or second question, this action moves them to the following question. On the final question, clicking "Next" redirects them to a confirmation screen. A back arrow is always available, allowing them to return to the previous question.

Throughout the questionnaire, informative tooltips may appear. If the patient taps on one, a brief explanation is displayed in a modal. Closing the modal by clicking "I understand" returns them to the questionnaire.

3.2.3 SUBMITTING THE QUESTIONNAIRE

Once on the confirmation screen, the patient can submit their answers by tapping "Send my answers." If the submission is successful, the answers are saved and the patient is taken to a loading screen. In case of a connection issue or technical error, an error message appears, prompting the patient to try again later.

On the Loading screen, once loading is complete: if the patient clicks "Start", they are redirected to the Library.

If the medical profile questionnaire fails to load during the onboarding process, the app displays an error screen informing the patient of the issue and preventing further progress until resolved.

Medical profile questionnaire: list of questions

Question #	Question (English)	Type	Answers
Q1	What is your current status?	Single choice	- I am not a patient - In diagnosis - In active treatment - In remission - Prefer not to say
Q2	What types of active treatments are you receiving?	Multiple choice	- I don't know - Surgery - Chemotherapy - Radiotherapy - Targeted therapy - Immunotherapy
Q3	Are you currently taking a hormone therapy medication?	Single choice	- Yes - No - I don't know

3.2.4 OPEN AND DISCOVER A CATEGORY

3.2.4.1 CATEGORY: GENERAL BEHAVIOR

A user wanting to open a content category from the library homepage needs to click on the category thumbnail or the arrow.

When a patient opens a content category, the interface dynamically adapts based on the structure and availability of the content associated with that category.

If the selected category includes one or more content modules, the screen will display the tab bar (to support cross-category navigation), the title of the category, and a list of all available modules within that category. The number of modules shown is variable and may range from one to several, depending on the data provided.

If no modules are associated with the category, the interface instead presents the category title followed directly by a list of individual articles related to that theme. The absence of modules does not impact on the visibility or access to relevant content.

As the patient scrolls within any category view, the main header fades out to prioritize content visibility, while the tab bar remains sticky at the top of the screen. This ensures consistent access to navigation without interrupting the content exploration flow.

3.2.4.2 PERSONNALISATION RULES WITHIN A CATEGORY

Within a category, content modules and individual articles can be found.

3.2.4.2.1 Content module visibility

A content module is a set of several pieces of content addressing the same need. The visibility of a content module to a patient is governed by two complementary filtering mechanisms: organization-based rules and research study arm-based rules. For a module to be displayed, both criteria must be satisfied simultaneously. If only one of the two sets of rules is met, the module is not shown to the patient.

A. Organization-Based Visibility Logic

When a module is tagged with one or more organizations, it is shown only to patients whose assigned organization matches at least one of the tags. If the patient's organization does not match any tag, the modules remain hidden.

In contrast, if a module has no organizational tags, it is considered public from an organizational standpoint and is visible to all patients, regardless of whether they are linked to an organization or not.

B. Research Study-Based Visibility Logic

For clinical research context of eQuol, modules will be tagged with the research study, and a flag indicating assignation and exclusivity.

If exclusivity is set to true, the modules is hidden from patients outside the tagged study.

If exclusivity is false, the modules are still displayed to patients not belonging to the tagged study.

Modules that are not tagged with the eQuol tag are visible to all patients, regardless of their participation in a research study.

3.2.4.2.2 Individual article visibility

Within a category, Individual articles are displayed after the content modules. When a patient opens a content category, a personalized selection of articles is presented. This selection is based on a combination of rules that consider the patient's medical profile, e-Quol clinical trial assignation, organizational affiliation (If relevant), and editorial recommendations.

A. Conditions for Displaying Articles

Displayed articles must meet several criteria simultaneously: they must be associated with the selected category and match the patient's characteristics. The match can be based on various dimensions such as an editorial flag.

Generic articles—that are not filtered by any of these criteria—can also appear if they are linked to the selected category.

Conversely, content will be excluded from display if its tagging doesn't match the patient's characteristics:

- it is explicitly marked as not recommended,
- the patient's profile lacks the necessary information for matching,
- or it belongs to a different category.

The order in which articles appear is determined by a scoring algorithm that considers multiple factors: relevance to the medical profile, usage history (read/unread), and a controlled degree of randomness. The scoring algorithm works the same as described previously In section "Personalization within Suggested for you section".

B. Filtering Logic

The system applies four complementary dimensions of filtering, **all of which must be satisfied** for an article to be displayed:

- **e-Quol clinical trial Participation**: Articles associated with the e-Quol clinical trial are shown only if the patient belongs to the clinical trial. If research_study_exclusivity tag is set to false, the article may also be shown to other patients. However, if exclusivity is true or if the patient lacks sufficient research data, the article will not be displayed.

- **Medical Data Matching**: Each article may include tags across multiple data categories (e.g., cancer type, treatment status). For an article to be shown, the patient must match at least one tag in **each** tagged category. If the patient's data is missing or doesn't intersect with any of the tags in a given category, the article is excluded. However, if the article has no tags for a given category, this does not prevent it from being displayed.

- **Editorial Recommendation**: Only articles marked as recommended are eligible for display. Those explicitly marked as not recommended are excluded.

To be visible to a patient, an article must **meet all filtering conditions** above.

3.2.5. OPEN AND DISCOVER A CONTENT MODULE

3.2.5.1 CONTENT MODULES : GENERAL BEHAVIOR

When a patient opens a content module, the screen initially presents a structured header. This includes the top bar, a back navigation button, access to search and favorites, the modules title and subtitle, as well as the modules cover image. Below this header, the list of articles included in the modules is displayed.
As the patient scrolls through the content, the header gradually disappears to maximize space for the articles, while the tab bar remains sticky at the top of the screen, maintaining navigational continuity.

3.2.5.2 ARTICLE PERSONALISATION AND DISPLAY LOGIC

The visibility of articles within the application is governed by a set of personalization rules that align content with the patient's clinical profile, study participation, and organizational context. This filtering mechanism ensures that each patient is only exposed to content that is medically and contextually relevant.

3.2.5.2.1 Filtering Mechanism

Articles may include tags derived from various data categories. These tags define the criteria under which an article should be shown. The relevant data categories include:

- Cancer Type
- Treatment Type
- Treatment Status
- Metastasis Status
- Cancer Status
- Hormonotherapy Status
- Organization
- Research Study
- Gender

Filtering is applied according to the following rules:

- If an article includes tags in one or more categories, the patient's profile must intersect with at least one tag in each tagged category for the article to be displayed.
- If an article includes tags across multiple categories, a match must be found in every tagged category; otherwise, the article is excluded.
- Articles without tags in one or more categories are considered neutral for those categories and remain eligible for display.
- Articles without any tags at all are considered universal and are displayed to all patients.
- If a patient has missing or incomplete data in a category and the article includes tags for that category, the article is not shown.
- If the article does not contain tags for a category, and the patient lacks data in that same category, the article is shown.

These filtering rules apply across all categories simultaneously. For an article to be visible, all applicable conditions must be satisfied. If the article meets the criteria for organizational affiliation but not for clinical trial, it will still be excluded—and vice versa.

3.2.5.2.2 Ordering Logic

Once filtering is complete, articles are presented in the order defined in the content management system. This ordering is manually curated by content teams and not dynamically adjusted by the application.

In a few words:

- Tagged Articles: Require at least one patient-data match per tagged category.
- Untagged Articles: Are shown to all users.
- Filtering and Ordering: Filtering ensures medical relevance.
- This integrated logic ensures that content remains tailored, relevant, and consistent with the patient's research study.

3.2.6 OPEN AND DISCOVER AN INDIVIDUAL ARTICLE

An Individual article can take the form of a text, video, each of them having dedicated templates and rules.

3.2.6.1 TEXT ARTICLE PAGE STRUCTURE

When a patient selects an article in text format, the app navigates to a dedicated article page displaying the content in a predefined and consistent structure.
At the top of the screen, the standard top navigation bar is shown.
The article page itself is composed of the following core elements, displayed in order:

- Article Header: this section contains the article title, the cover image, and, when available, a link to the author's page. It also includes the estimated reading time, which is mandatory.
- Article Body: the main text of the article, which is always displayed in full.
- Sources Section *(if applicable)*: if references or bibliographic sources are attached to the article, they are shown below the main body. See dedicated user stories for source display.

- Recommended Articles *(if available)*: at the bottom of the page, a selection of suggested articles may be shown based on the patient's profile or reading history. These follow separate display logic (see related specifications).

- PDF documents can be added Into an text article.

This structured layout ensures clarity, consistency, and alignment with the app's broader user experience framework while supporting patient engagement with medically validated content.

3.2.6.2 VIDEO ARTICLE PAGE STRUCTURE

When a patient selects a video format article, the app navigates to a dedicated page featuring the standard top bar used throughout the app. Below this, the article header displays the article title, a clickable video thumbnail (YouTube hosting) that launches the video, a link to the author's page if available, the estimated viewing duration, and interactive features including like/dislike and adding to favorites. The article body follows with any additional written content.

If available, the page also includes a sources section listing references and a recommended articles section personalized for the patient.

When the patient taps the video thumbnail, the YouTube player opens and begins playback, providing all standard YouTube controls such as play/pause, fullscreen toggle, and other playback options.

PDF documents can be added Into an text article.

If the patient enters fullscreen mode and then leaves the app, the native Picture-in-Picture (PiP) mode automatically activates, allowing the video to continue playing in a small overlay while the user navigates outside the app.

3.2.6.3 OTHER SECONDARY TEMPLATES

3.2.6.3.1 Source template

When a patient opens an article:

- If sources are provided, a "Sources" section appears at the end of the article.

- If no sources are listed, this section is hidden.

Clicking on the "Sources" section leads to a dedicated page with a list of sources. Each source may include a title, an icon, and a clickable link if available.

If a source has a link and the patient clicks it, it opens in the device's browser.

3.2.6.3.2 Author template

When a patient opens an article:

- If there is only one author, their name and photo are displayed below the article cover. The name is clickable to access more details.
- If there are multiple authors, several photos are shown with a "Multiple authors" label. Clicking opens a page with the full list of contributors.
- If there are more than four authors, only the first few are shown, with a summary of how many more exist.
- On the authors list page, each profile includes a photo, name, and role—and can be clicked to open the individual author's profile.
- The author profile page shows their name, role, and photo.

3.2.6.4 SUGGESTED ARTICLES

When opening an article from the "Suggested for You" section within any category—up to three unread recommended articles will be shown, or fewer if less are available. If all articles have been read, the section is hidden.

However, if a patient opens an article from other places, such as search results, favorites, or highlighted content, the "Suggested for You" section will not be shown.

3.2.6.5 SAVE AN ARTICLE

When a patient views an article, they can add it to their favorites by clicking the "Add to favorites" button. Once added, the button changes to "Remove from favorites" to indicate the new status.

If the patient wants to remove an article from their favorites, they simply click the "Remove from favorites" button, which then switches back to "Add to favorites."

In rare cases, if an error occurs while saving or removing an article, the button may temporarily change status, but the action might not be saved permanently. If the patient returns later, the favorite status may not be retained.

3.2.6.6 LIKE OR DISLIKE AN ARTICLE

When a patient views an article, they can like or dislike it by clicking the thumbs up or thumbs down icons. The icons will visually change to show the patient's choice.

The patient can change their opinion by clicking the same icon again.
If an error happens while saving the like or dislike, the icon may still change temporarily, but the action might not be saved. Returning to the article later may show the previous status.

3.2.7 SEARCH FOR ARTICLES

Patients can access the search functionality in two main ways:

- By tapping the search icon in the top bar of the application, available throughout the app.
- From key content areas such as the journal or library, where a visible search bar invites them to explore content.
- Tapping on either element opens a dedicated search page and automatically activates the keyboard, allowing the patient to begin typing their query immediately.

3.2.7.1 SEARCH PAGE BEHAVIOR

If the patient has never seen any content before, only the search bar and keyboard are displayed.
If they have previously read articles, a "Previously consulted" section appears beneath the search bar, showing up to 20 articles they've already opened.

As the patient types a search query, results are suggested in real-time. After a short pause (about 300ms), results matching the query begin to appear under a "Search results" heading. Up to 10 relevant articles may be displayed at once.

If there are no matching results, a message appears informing the patient that no content was found. In this case, they are invited to suggest new topics or content via a short in-app questionnaire.

If the patient loses their internet connection or if there is a technical error, a dedicated message is shown explaining the issue.

3.2.7.2 SEARCH RESULT RULES AND FILTERING

Articles displayed in the search results are filtered based on several layers of relevance:

- **Medical Profile**: Articles must match at least one data point in each category the article is tagged with (e.g. cancer type, treatment status).
- **E-Quol clinical trial Participation**: If the article is tagged for e-Quol clinial trial it will only be displayed if the patient is part of the clinical trial
- **Search Query Matching**: The title, summary, authors or sources of the article must match the keywords typed by the patient.

Articles that do **not** meet the above conditions are **not shown** in the results. If the patient's medical profile is incomplete, some articles may be filtered out.

All articles that pass the filtering stage are then ranked by a scoring algorithm. This algorithm evaluates how closely the article content aligns with:

- The patient's individual profile
- The typed search query
- The general relevance of the article (some articles are considered broadly useful and may appear for all patients)
- This ensures that the most relevant and useful articles appear first in the list, while still maintaining the patient's privacy and tailoring the results to their clinical context.

3.2.8 ACCESS THE LIST OF SAVED ARTICLES

Patients can access their list of saved articles by tapping the dedicated icon located in the top navigation bar. This feature allows them to easily return to content they've marked as favorites.

3.2.8.1 WHEN ARTICLES HAVE BEEN SAVED

If the patient has previously saved articles, a dedicated page is displayed showing their favorites. The articles appear in reverse chronological order—most recently saved articles appear first.

The page includes:

- A title such as "Your favorites"

- A subtitle like "Latest saved content"

- A list of saved articles

- A small visual cue or thumbnail explaining how to remove an article from the list if needed

This design allows patients to easily review and manage content they found relevant or useful.

3.2.8.2 WHEN NO ARTICLES ARE SAVED

If the patient hasn't saved any articles yet, or if an error occurs while retrieving the saved list, the app displays a placeholder view.

This screen includes:

- A title ("Your favorites")

- An illustrative image showing how to save articles

- A short message explaining how the favorites feature works and inviting the patient to save content for later

This approach ensures clarity while encouraging patients to engage more deeply with the app's educational resources.

4 Profile and settings

4.1 Consult and edit personal information

From the profile section, the patient can access their personal details by selecting "My personal information." If the data loads successfully, a dedicated screen opens, displaying both editable and non-editable items. Non-editable fields appear with a lock icon, while editable ones include a right arrow indicating they can be modified. If the loading fails due to network issues, an error message is shown.

4.1.1 VIEWING AND EDITING PERSONAL DATA

When the patient taps an editable item, a modification panel opens (bottom sheet), showing the current value (if any). Changes can be entered and confirmed by clicking "Validate." If the request succeeds, the new value is saved and shown on the main personal information screen. If the update fails, an error notification appears. Exiting the bottom sheet without validation discards any modifications.

Data such as first name, last name, gender, birth date, and phone number are non-editable. A message explains that any updates should be requested through their care team.

The "Validate" button only becomes active if the input meets the format or character requirements.

4.1.2 USER INTERFACE DETAILS

During data loading, placeholder skeletons are displayed. The modification sheet includes clear placeholders and visual cues (e.g., cross icons to clear inputs). Users can return to the main profile by clicking the back arrow at any point.

4.1.3 ERROR MANAGEMENT

In case of issues:

- If the patient is offline, a message indicates the absence of internet connectivity.
- For general API errors, a standard error message invites the user to try again later.

4.2 Consult and edit Medical Information

From their profile screen, the patient can access their medical data by selecting "My Medical Information." If the data loads successfully, a dedicated page opens, displaying the available information. Non-editable data is marked with a lock icon, while editable information is shown with an arrow, allowing the patient to open an editing panel.

If the loading fails (due to being offline or an API error), an error message is displayed on screen.

4.2.1 MODIFYING MEDICAL DATA

Data such as type of cancer, recurrence status, stage of cancer are not editable. Editable data are stage of treatment, active treatment type and ongoing hormone therapy.

When a patient selects an editable field, a bottom sheet opens, pre-filled with the current value if available.

After entering a new value, the patient can confirm by tapping the "Validate" button.

Two scenarios may occur:

- Success: the updated value is saved, the bottom sheet closes, and the new information is visible on the main screen.
- Failure: an error notification (toaster) appears, and the value is not saved.

The patient can also close the bottom sheet without validating the changes—this cancels the modification.

4.2.2 NAVIGATION AND ADDITIONAL INTERACTIONS

Tapping the back arrow returns the patient to the profile screen.

Certain fields include an information button ("i"). When tapped, an informational modal opens. The patient can dismiss it by clicking "I understand."

4.2.3 SHARE HEALTH REPORT

When a patient opens their profile screen, they see a dedicated card labeled "Health Report."

Tapping this card opens a modal window informing the patient that the feature will be available soon.

Once the modal is displayed, the patient can dismiss it by tapping "I understand," which closes the modal and returns them to the profile screen.

4.3 Settings

4.3.1 CONSENT MANAGEMENT

When a patient accesses the "Consent" section from their profile, they are taken to the "Your Consents" screen, where they can view and manage the consents they have previously accepted or declined. Each consent is displayed with a toggle indicating its status — either on (accepted) or off (declined). Patients can update their preferences by switching toggles. Any change activates the "Validate" button, enabling the patient to save modifications. However, if they revert all toggles to their initial state, the button becomes inactive again, indicating no changes need to be saved.

Upon tapping "Validate", a loading indicator appears to confirm the submission is being processed, and other actions are temporarily disabled. If the update is successful, the new consent states are saved and the patient is returned to their Profile screen. In case of failure, for example due to network issues, a toast message informs the patient that an error has occurred.

The patient uses the Back arrow after modifying their consents, a modal confirmation prompts them to either save the changes and return to their profile or discard them and return to the journal. If no changes were made, the app simply navigates back to the profile screen without prompting it.

4.3.1.1 SECURITY

Patients participating in the study can manage their account settings from the Profile section of the mobile application. Within this section, a clearly labelled "Security" option allows access to sensitive account management features.

Upon selecting the Security option, the patient is directed to a dedicated screen where they may choose to delete their account. If the patient taps "Delete my account", they are taken to a confirmation screen that informs them of the consequences of this action.

To proceed, the patient must confirm their decision by selecting "Delete my account" again. At this point, the interface enters a loading state, and the button label changes to "Cancel" to allow the user to abort the operation if necessary.

If the deletion request is successful, a confirmation message is displayed, and the action button is updated to "Leave the app". Tapping this final button logs the patient out and returns them to the initial opening screen of the application.

If the request fails, for example, due to lack of internet connectivity or a technical error—a message is displayed to inform the patient that the operation could not be completed. No changes are made to account in this case.

At any time during this process, the patient may choose to return to the previous screen by tapping the back navigation arrow, thereby cancelling the account deletion flow without saving any changes.

4.3.1.2 LANGUAGES SETTINGS

Language settings are handle differently on android and IOS devices:

- When logged into the Android application, a patient can access language preferences through the Profile section. By selecting the "Languages" option, the patient is directed to a screen displaying the full list of supported languages available within the app.
  - From this screen, the patient may choose a different language. Upon selection, the application automatically applies the change and redirects the patient to their Journal, now fully displayed in the newly selected language.
- When logged on to the IOS application, a patient can access language preferences through the Profile section. By selecting the "Languages" option, the patient is directed to the mobile phone settings directly.

Currently supported Languages

- French
- English (UK)
- English (US)
- German
- Dutch
- Spanish
- Italian

Developed specifically for the study eQuol:

- Hungarian
- Slovenian
- Norwegian

4.3.2 ASSISTANCE

4.3.2.1 ACCESS TO REGULATORY DOCUMENTS

From the Profile section of the mobile application, the patient has access to two legal documents:

- General Terms of Use (GTU)

- Data Protection Policy

- When opening the Profile, the patient sees a call-to-action button labeled "General Terms of Use". Tapping this button opens the GTU in the device's default browser. The content displayed is dynamically selected based on the patient's language preferences.

- Similarly, the patient sees another button labeled "Data Protection Policy". Tapping it opens the privacy policy portal in the default browser. As with the GTU, the correct documentation is shown depending on the patient's language set in the application.

4.3.2.2 CONTACT FUNCTIONALITY

The Profile screen also includes a button titled "Contact Us". When the patient taps on it, a dedicated contact screen is displayed.

From this screen, the patient can navigate back to the Profile by tapping the back arrow.

To reach technical support, the patient can tap the "Contact Support" button. This action opens a pre-filled email draft in the device's default email application. The email subject is "Resilience mobile app support", and the body automatically includes key technical details such as the operating system version, device model, and the application version. The recipient is pre-set to *support@resilience.care*.

4.3.3 LOG OUT

When the patient opens their Profile screen, a "Log out" call-to-action is available.

Tapping this button opens a confirmation modal, asking the patient to confirm their intention to log out.

If the patient confirms by selecting "Log out", they are logged out of the app and are redirected to the phone number identification screen.

If the patient selects "Cancel", the confirmation modal closes, and they remain on the Profile scree

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