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BIO-STREAMS

D5.2 Bio-Streams Platform Dashboard

BIO-STREAMS Platform – Beta Version Demonstrator

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Reviewers	Thelma Androutsou, Stavros Pitoglou

Abstract	<p>The BIO-STREAMS Platform Dashboard represents the first integrated user-facing interface of the BIO-STREAMS ecosystem, providing visualization and management capabilities for all stakeholders. It serves as the central control point enabling healthcare professionals, administrators, and clinical coordinators to access clinical study management tools, monitoring analytics, recommendation engine services, and ActiveHealth application management through a unified web-based interface. The Dashboard integrates with core platform</p>
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	<p>components including the Information Management System, monitoring services (Grafana, Matomo), authentication infrastructure, and the Recommendation Engine for personalized intervention delivery. Deployed on the production environment with full operational status, the Dashboard demonstrates the platform's capability to support multi-site clinical operations, evidence-based decision support, and real-time system observability. The deliverable documents the functional interfaces, integrated components, deployment architecture, and ongoing maintenance and bug-fixing processes through Basecamp Kanban boards.</p>
Keywords	<p>Bio-streams platform, distributed data platform, biobank, healthcare data, integration, clinical data access, hospital pilot, containerized architecture, digital health application, Serious Games, school pilot</p>

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Nature of the deliverable:	DEM	
Dissemination Level		
PU	<i>Public, fully open, e.g. web</i>	X
SEN	<i>Sensitive, limited under the conditions of the Grant Agreement</i>	
Classified R-UE/ EU-R	<i>EU RESTRICTED under the Commission Decision No2015/ 444</i>	
Classified C-UE/ EU-C	<i>EU CONFIDENTIAL under the Commission Decision No2015/ 444</i>	
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- * *R: Document, report (excluding the periodic and final reports)*
DEM: Demonstrator, pilot, prototype, plan designs
DEC: Websites, patents filing, press & media actions, videos, etc.
DATA: Data sets, microdata, etc
DMP: Data management plan
ETHICS: Deliverables related to ethics issues.
SECURITY: Deliverables related to security issues
OTHER: Software, technical diagram, algorithms, models, etc.

Executive summary

As part of Work Package 5, the BIO-STREAMS Platform Dashboard represents a fully operational central interface and key demonstrator of the BIO-STREAMS ecosystem. It serves as the primary unified access point for healthcare professionals and administrators to interact with, monitor, and manage all components of the BIO-STREAMS platform.

The Dashboard has been successfully deployed and integrated on the production environment and is currently running and actively supporting both clinical and school pilots across multiple European healthcare sites without operational issues. Its architecture integrates core infrastructure and application services including the front-facing web-application interface, the ActiveHealth Application back-office, the Information Management System (IMS) for centralized data aggregation, the Node Gateway for secure connectivity with distributed clinical sites, and essential observability tools such as Grafana for system monitoring [1], Seq [2] for distributed logging, and Matomo [3] for user engagement analytics. These services operate under a unified, secure authentication system powered by Keycloak [4].

The current implementation features fully functional iterations of all required user-facing interfaces organized across thirteen distinct dashboard components. These tools have been actively deployed in real-world scenarios, with participant accounts successfully created for both school workshop users and clinical study participants across multiple European healthcare sites.

The Dashboard deployment employs a container-based architecture supported by automated Continuous Integration and Continuous Deployment (CI/CD) [5] pipelines, ensuring reproducibility and consistent deployment across different environments. All ongoing support and maintenance activities are tracked through Basecamp Kanban boards, providing transparent visibility into bug fixes and performance optimizations based on pilot feedback and operational requirements.

This fully operational Dashboard release establishes a robust foundation for stakeholder engagement and platform validation, demonstrating the feasibility of centralized control and monitoring of a distributed healthcare data ecosystem. It prepares the ground for further refinement and validation in subsequent platform releases, including the Beta platform (D5.3) and Final platform (D5.4).

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Abbreviations

ACT	Active Health Application
ANA	Analytics Service (Matomo)
API	Application Programming Interface
AUTH	Authentication Service (Keycloak)
BNB	BIO-STREAMS Node Bundle
CI/CD	Continuous Integration / Continuous Deployment
DASH	Dashboard
IMS	Information Management System
IP	Internet Protocol
LOGS	Distributed Log Service
NGW	Node Gateway
SERG	Serious Games Suite
SSH	Secure Shell
UI	User Interface
URL	Uniform Resource Locator

1 Introduction

The present deliverable, D5.2 - BIO-STREAMS Platform Dashboard, provides a comprehensive visual documentation of the central control interface of the BIO-STREAMS platform. As a DEM (Demonstrator) type deliverable, its objective is to showcase the availability of a fully operational dashboard prototype, highlighting its main user-facing views, integrated components, and current operational capabilities.

The BIO-STREAMS Platform Dashboard serves as the primary unified access point for all stakeholders to interact with and manage the BIO-STREAMS ecosystem. At this stage, a fully functional dashboard has been established, integrating core administrative interfaces, clinical study management tools, data visualization views, and monitoring capabilities across multiple integrated platform services.

This document focuses on presenting the visual and functional aspects of the Dashboard through screenshots and descriptions of its main features, including integration with the Information Management System, ActiveHealth back-office administration, Risk Assessment and Recommendation Engine interfaces, and real-time system monitoring dashboards. Complementary technical specifications, deployment configurations, and comprehensive system validation are provided in the platform technical architecture (D5.1) and will be included in subsequent platform release deliverables (D5.3, D5.4).

2 Dashboard Components and Features

The BIO-STREAMS Platform Dashboard is organized into functional components that support the daily operational, administrative, and analytical needs of the BIO-STREAMS ecosystem. These components address the requirements of different stakeholder groups, including healthcare professionals, clinical coordinators, study managers, technical administrators, and platform support teams. Together, they provide a unified environment for data access, study management, intervention administration, system monitoring, and user support, while maintaining secure and role-based access to platform services.

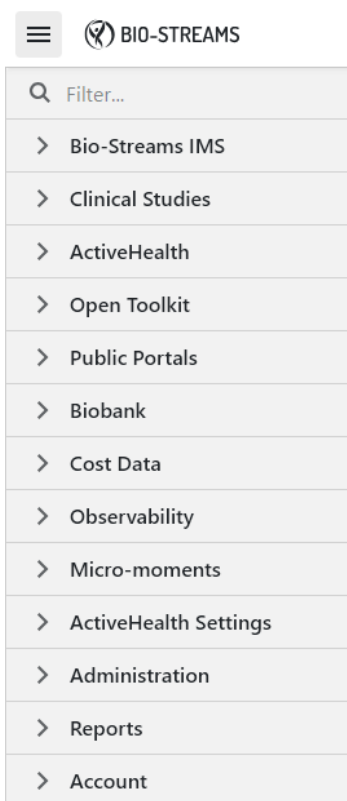


Figure 1 Dashboard Navigation Menu

2.1 BIO-STREAMS Information Management System (IMS)

The Information Management System (IMS) serves as the central data aggregation hub for the BIO-STREAMS platform, collecting and managing health data from distributed clinical sites. The IMS is fully operational and actively processing data from multiple study participants across European healthcare facilities.

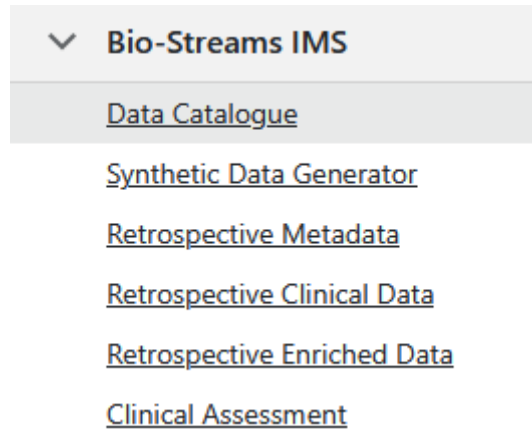


Figure 2: Dashboard BIO-STREAM IMS sidebar menu

The system includes the following functions: data aggregation from clinical areas, data validation and quality control workflows, integration with the Node Gateway for secure data transmission and GDPR compliance for data storage and access control. Real data monitoring is possible through the Data Catalogue, which displays all available data collections from connected clinical sites.

The Synthetic Data Generator allows the users to access synthetic data sets for training, testing, and research.

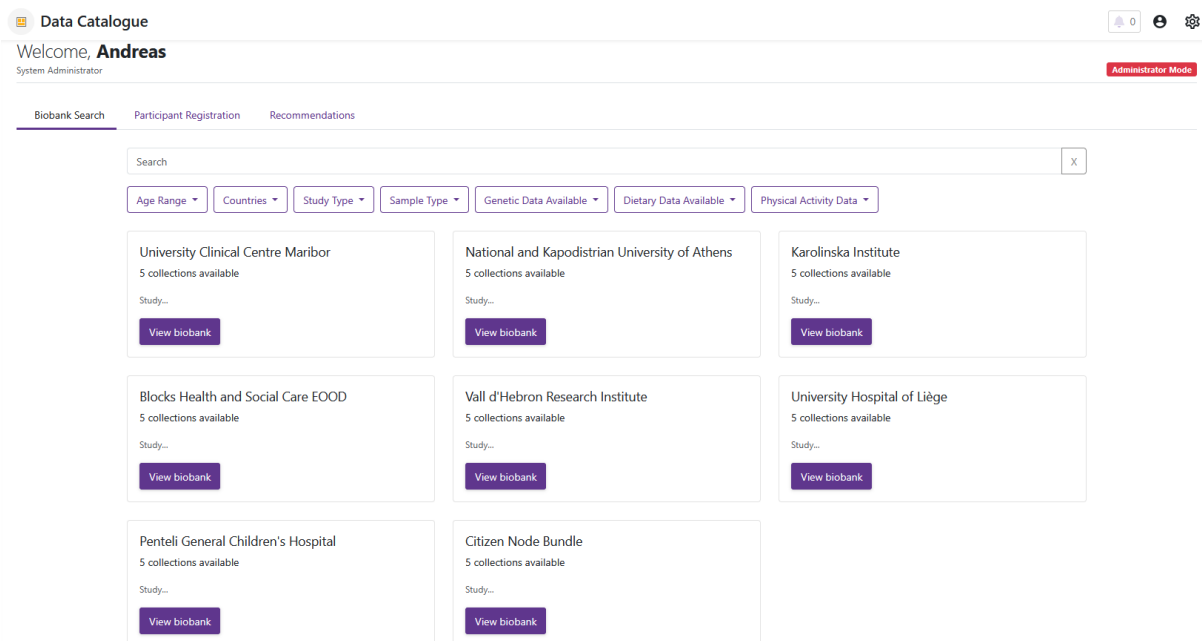


Figure 3 Data Catalogue

Synthetic Data Generator

Generate synthetic datasets for training, testing, and research.

Dataset Size *

Number of synthetic records to generate (1-10,000)

Data Type *

Generation Algorithm *

Select an algorithm to generate synthetic data

Generated Dataset

No dataset generated yet. Configure the options above and click "Generate Dataset".

Figure 4 Synthetic Data Generator

Retrospective Metadata

Retrospective metadata for study participants, which includes details about the data collection process, versioning, and data source.

Patient ID	Data Source	Collection Date	Study Site	Data Version	Data Quality Score	Comments
ST3-MD001	EU Biobank	2023-07-14	Germany	v1.2	98%	Data verified, high accuracy
ST3-MD002	Childhood Obesity Study	2023-06-30	Netherlands	v1.1	95%	Data validated, minor inconsistencies
ST3-MD003	BioStreams Cohort	2023-08-12	France	v1.0	90%	Missing data on activity levels
ST3-MD004	EU Childhood Obesity Biobank	2023-05-22	Italy	v1.3	99%	Complete and validated
ST3-MD005	Clinical Health Study	2023-09-10	Spain	v1.0	85%	Data needs further validation

Figure 5 Retrospective Metadata

Retrospective Clinical Data

Patient ID	Age	BMI	Physical Activity	Dietary Intake	Family History	Last Visit Date
ST3-001	12	25.2	Moderate	High sugar intake	Diabetes Type II	2023-07-14
ST3-002	10	21.8	Low	Balanced	Hypertension	2023-06-30
ST3-003	13	28.5	Low	High fat intake	None	2023-08-12
ST3-004	11	22.4	Moderate	High carb intake	Obesity	2023-05-22
ST3-005	9	19.7	High	Low carb intake	Heart disease	2023-09-10

Figure 6 Retrospective Clinical Data

Retrospective Enriched Data

Patient ID	Age	BMI	Physical Activity	Dietary Intake	Family History	Genetic Markers	Biochemical Data	Behavioral Pattern	Last Visit Date
ST3-EN001	12	25.2	Moderate	High sugar intake	Diabetes Type II	SNP rs9939609 (FTO gene)	Elevated triglycerides	Sedentary lifestyle	2023-07-14
ST3-EN002	10	21.8	Low	Balanced	Hypertension	APOE E4 allele	Normal glucose levels	Limited physical activity	2023-06-30
ST3-EN003	13	28.5	Low	High fat intake	None	TCF7L2 risk allele	Elevated LDL cholesterol	Poor dietary habits	2023-08-12
ST3-EN004	11	22.4	Moderate	High carb intake	Obesity	SNP rs17782313 (MC4R gene)	Normal cholesterol levels	Occasional exercise	2023-05-22
ST3-EN005	9	19.7	High	Low carb intake	Heart disease	SNP rs7903146 (TCF7L2 gene)	Normal triglycerides	Active lifestyle	2023-09-10

Figure 7 Retrospective Enriched Data

Through the dashboard interface, authorized users can inspect available datasets, review metadata, and access structured representations of retrospective and enriched clinical information. This allows the IMS to function not only as a back-end aggregation layer, but also as a practical operational entry point for data exploration and validation within the BIO-STREAMS platform.

2.2 Clinical Studies

The Clinical Studies interface provides integrated management capabilities to support the three main clinical studies of BIO-STREAMS. The platform supports creating new studies, tracking participant enrolment, and managing participant accounts across all European

locations. Each study has its own integrated data management, including the ability to view data and modify user accounts.

Clinical coordinators and study directors can monitor enrolment progress in real time and adjust study parameters. The system also provides capabilities for tracking adverse events. There is integrated support for school programs alongside clinical studies, enabling the management of participants from educational environments.

In addition to participant and study management, the Clinical Studies component supports operational coordination across geographically distributed pilots by centralizing key administrative workflows in a single interface. This facilitates coordination between local study teams and project-level management, while supporting consistent handling of participant-related actions across clinical and school settings.

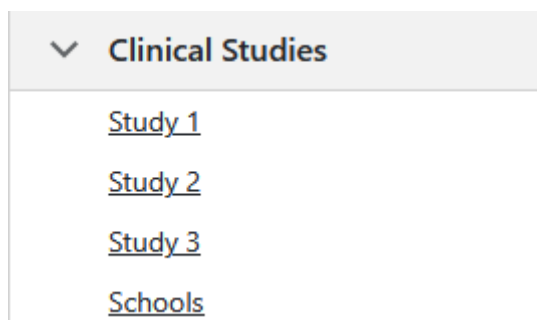


Figure 8 Clinical Studies sidebar menu

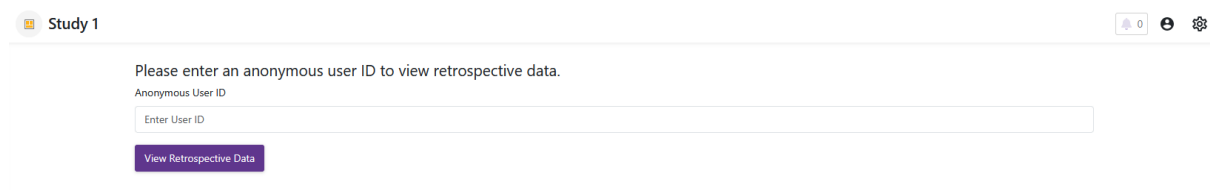


Figure 9 Study 1 View Retrospective Data



Figure 10 Study 2 Create user for clinical pilots

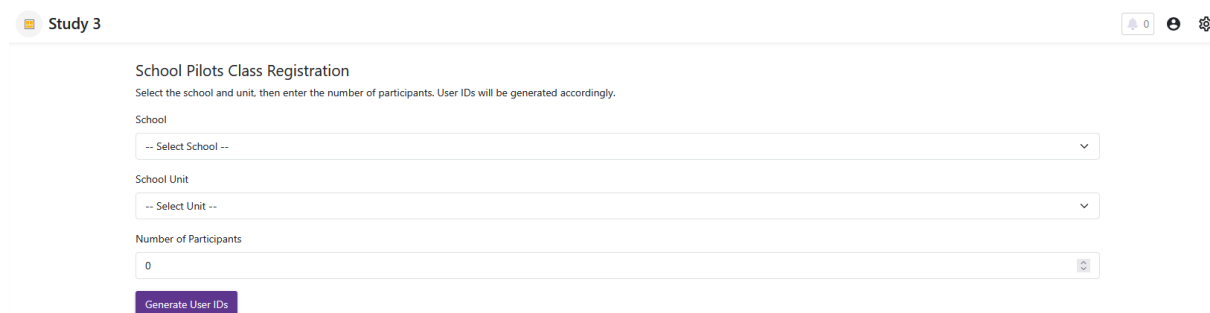


Figure 11 Study 3 Create users for school pilots

Schools 🔔 0 🌙 ⚙️

+ New 🗑 Delete 🔍 ↔ 🔄

<input type="checkbox"/>	Name	Created By	Created On
<input type="checkbox"/>	Agrupamento de Escolas Pinheiro e Rosa	nuclioad	17/04/2026 10:05
<input type="checkbox"/>	DCHE-School	ikouris	21/10/2025 00:00
<input type="checkbox"/>	demoEducator-School	ikouris	17/11/2025 10:32
<input type="checkbox"/>	demoEducatorSchool1	ikouris	19/11/2025 12:36
<input type="checkbox"/>	demoSchool	ikouris	18/11/2025 10:48
<input type="checkbox"/>	Escola Básica dos 2º e 3º Ciclos de Estoi - Faro	nuclioad	17/04/2026 10:02
<input type="checkbox"/>	ESHA-School	ikouris	21/10/2025 00:00
<input type="checkbox"/>	Gørlev Skole	ikouris	19/11/2025 11:38
<input type="checkbox"/>	GR_DK1	huaad	01/04/2026 10:15
<input type="checkbox"/>	GR_DK2	huaad	01/04/2026 10:23
<input type="checkbox"/>	GR_DM	huaad	01/04/2026 09:40
<input type="checkbox"/>	GR_GP	huaad	01/04/2026 09:54
<input type="checkbox"/>	GRI1	ikouris	31/10/2025 09:36
<input type="checkbox"/>	GRI2	ikouris	31/10/2025 10:09
<input type="checkbox"/>	Hou Skole	dchead	13/04/2026 09:05
<input type="checkbox"/>	hua_test_01_04_2026	huaad	01/04/2026 06:41
<input type="checkbox"/>	HUA-School	ikouris	21/10/2025 00:00
<input type="checkbox"/>	intra-school	ikouris	31/10/2025 10:11
<input type="checkbox"/>	Kildegårdsskolen	ikouris	19/11/2025 11:39
<input type="checkbox"/>	Nordstjerneskoln	ikouris	19/11/2025 11:39

Page Size: 20

Figure 12 Schools: Create new School

2.3 ActiveHealth

ActiveHealth is the primary management interface for the health application. It provides integrated user account management, including modifying, and deactivating accounts with automatic synchronization with the Keycloak system for authentication [1].

Administrators can view user diaries, where activities and responses are recorded, and monitor the recommendations and micro-moments delivered to each participant. The system also supports data deletion and privacy-related requests, helping ensure that participant-facing workflows are managed in line with data protection requirements.

As the main back-office environment for the application, ActiveHealth supports routine operational management by giving administrators centralized visibility over user activity, delivered content, and compliance-related processes.

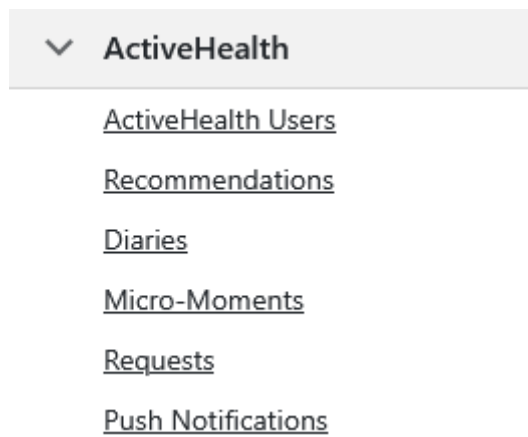


Figure 13 ActiveHealth Menu

ActiveHealth Users

+ New Delete Push Notification Text to search...

Is Visible To Creator	Node	Acc... Node	Acc... Sch...	Cr...	L...	Node Validation	Is Node Valid For Creator
<input checked="" type="checkbox"/>	Citizen Node Bundle			3/4/26 9:01:36	Greek	[ActiveHealthUser] Node: Citizen Node Bundle, CitizenBundle: True, School: N/A, SchoolUnit: N/A	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Citizen Node Bundle			3/4/26 8:51:40	Greek	[ActiveHealthUser] Node: Citizen Node Bundle, CitizenBundle: True, School: N/A, SchoolUnit: N/A	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Citizen Node Bundle			22/4/26 10:08:28	Greek	[ActiveHealthUser] Node: Citizen Node Bundle, CitizenBundle: True, School: School-test, SchoolUnit: School-test-Class1	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	National and Kapodistrian University of Athens			3/4/26 9:06:04	Greek	[ActiveHealthUser] Node: National and Kapodistrian University of Athens, CitizenBundle: False, School: N/A, SchoolUnit: N/A	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	National and Kapodistrian University of Athens			22/4/26 10:04:26	Greek	[ActiveHealthUser] Node: National and Kapodistrian University of Athens, CitizenBundle: False, School: N/A, SchoolUnit: N/A	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Penteli General Children's Hospital			3/4/26 9:12:14	Greek	[ActiveHealthUser] Node: Penteli General Children's Hospital, CitizenBundle: False, School: N/A, SchoolUnit: N/A	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Penteli General Children's Hospital			3/4/26 9:08:57	Greek	[ActiveHealthUser] Node: Penteli General Children's Hospital, CitizenBundle: False, School: N/A, SchoolUnit: N/A	<input checked="" type="checkbox"/>

Page Size: 20

Figure 14 ActiveHealth Users. List of users created

User Recommendations

+ New Delete Text to search...

Created	User	Category	Recommendation	Custom Recommendation	Importance
22/4/26 15:31	14302060	Hydration Goals	Encourage your child to carry a water bottle to stay hydrated throughout the day.		Recommended - Suggested
17/4/26 16:23	11574238	Hydration Goals	Ensure your child drinks at least 1.5L of water daily to prevent dehydration.		Recommended - Suggested
20/4/26 16:13	16189114	Bedtime Routine	Establish a consistent bedtime and wake-up routine.		Recommended - Suggested
17/4/26 10:03	11735146	Bedtime Routine	Establish a consistent bedtime and wake-up routine.		Recommended - Suggested
17/4/26 16:24	15615889	Mental Health & Mindfulness	Promote gratitude and self-care activities.		Recommended - Suggested
17/4/26 10:03	14013829	Screen Time Limit	Encourage screen-free activities like board games or outdoor play.		Recommended - Suggested
1/4/26 10:23	17918384	Balanced Meals	Ensure each meal includes a balance of protein		Recommended - Suggested
17/4/26 16:23	15567603	Emotional Well-being	Encourage a positive body image by focusing on health rather than weight.		Recommended - Suggested
17/4/26 16:23	19236888	Physical Activity Goals	Incorporate fun outdoor activities like hiking		Recommended - Suggested
28/3/26 21:22	beladmir	Balanced Meals	Encourage mindful eating by avoiding distractions during meals.		Recommended - Suggested
17/4/26 10:03	16129721	Hydration Goals	Ensure your child drinks at least 1.5L of water daily to prevent dehydration.		Recommended - Suggested
17/4/26 10:03	12031531	Emotional Well-being	Provide emotional support and avoid criticizing eating behaviors.		Recommended - Suggested
17/4/26 10:03	18841363	Balanced Meals	Prepare meals at home to control portion sizes and ingredients.		Recommended - Suggested
17/4/26 10:03	15980093	Mental Health & Mindfulness	Promote gratitude and self-care activities.		Recommended - Suggested
22/4/26 15:31	14677969	Physical Activity Goals	Aim for at least 60 minutes of physical activity daily.		Recommended - Suggested
13/4/26 9:16	11591109	Emotional Well-being	Encourage a positive body image by focusing on health rather than weight.		Recommended - Suggested
1/4/26 9:53	14450211	Sleep Goals	Ensure your child gets 9-12 hours of sleep per night.		Recommended - Suggested
17/4/26 16:23	16887525	Encourage Consistency	Praise and reinforce healthy choices regularly.		Recommended - Suggested
20/4/26 8:43	12546411	Sleep Goals	Create a calm bedtime routine to help with relaxation and better sleep quality.		Recommended - Suggested
1/4/26 10:23	17095671	Bedtime Routine	Encourage reading or listening to calming music before sleep.		Recommended - Suggested

Page Size: 20

Figure 15 User Recommendations Generated

User Diary

+ New Delete Finalize Text to search...

Date	Category	User	Questionnaire	Answer	Answer Time	Is Answered
23/4/26	6d5ad535-04e0-4d0e-97f6-80eb354edb6	15699222				<input type="checkbox"/>
23/4/26	0c1b871c-af62-4c2b-a940-87672efba0ea	15699222				<input type="checkbox"/>
22/4/26	0c1b871c-af62-4c2b-a940-87672efba0ea	15699222				<input type="checkbox"/>
21/4/26	4	15699222				<input type="checkbox"/>
21/4/26	3669d2d7-79dc-4320-b719-d0705d5d0427	15699222				<input type="checkbox"/>
23/4/26	a0ea7460-2c7e-4766-86f6-8de4ec1bba43	15699222				<input type="checkbox"/>
23/4/26	3669d2d7-79dc-4320-b719-d0705d5d0427	15699222				<input type="checkbox"/>
23/4/26	3669d2d7-79dc-4320-b719-d0705d5d0427	15699222				<input type="checkbox"/>
23/4/26	0662d5fa-9918-4d70-883c-49c05c138db2	15699222				<input type="checkbox"/>
22/4/26	0591efdb-2b38-4c01-ab03-b84ec3c8e087	15699222				<input type="checkbox"/>
23/4/26	4	15699222				<input type="checkbox"/>
22/4/26	0662d5fa-9918-4d70-883c-49c05c138db2	15699222				<input type="checkbox"/>
21/4/26	0c282911-4bce-48d7-b4d0-9c43cfaa41f5	15699222				<input type="checkbox"/>
22/4/26	0c282911-4bce-48d7-b4d0-9c43cfaa41f5	15699222				<input type="checkbox"/>
22/4/26	3669d2d7-79dc-4320-b719-d0705d5d0427	15699222				<input type="checkbox"/>
22/4/26	6d5ad535-04e0-4d0e-97f6-80eb354edb6	15699222				<input type="checkbox"/>
23/4/26	0c282911-4bce-48d7-b4d0-9c43cfaa41f5	15699222				<input type="checkbox"/>
21/4/26	172e45da-05d4-4d36-8ba3-0e6fbcaa2736	15699222				<input type="checkbox"/>
21/4/26	6d5ad535-04e0-4d0e-97f6-80eb354edb6	15699222				<input type="checkbox"/>
22/4/26	6b6df229-971d-4682-b3ed-f0a9b276d8cc	15699222				<input type="checkbox"/>

Page Size: 20

Figure 16 Diaries

User Micro-Moments 🔔 0 ⌵ ⚙️

Text to search... 🔍 ↻


<input type="checkbox"/>	Date	User	Micro-Moment	Liked	Actioned	Archived
<input type="checkbox"/>	22/4/26 10:07:46	15699222	Reading Ingredient Lists			
<input type="checkbox"/>	21/4/26 10:05:24	15699222	Make DIY Granola Bars			
<input type="checkbox"/>	20/4/26 11:03:33	12842952	Weekend Hike Plan			
<input type="checkbox"/>	4/4/26 10:13:15	12842952	Veggies in Everyday Meals			
<input type="checkbox"/>	17/4/26 10:53:50	12842952	Local Family Hiking Trails			
<input type="checkbox"/>	11/4/26 10:35:40	12842952	Parks with Walking Trails			
<input type="checkbox"/>	8/4/26 10:23:55	12842952	Exercise and Appetite			
<input type="checkbox"/>	6/4/26 10:13:15	12842952	Visit Local Sports Facilities			
<input type="checkbox"/>	5/4/26 10:13:15	12842952	About Sugary Breakfast Foods			
<input type="checkbox"/>	18/4/26 11:03:30	12842952	A Family Fitness Schedule			
<input type="checkbox"/>	22/4/26 11:07:56	12842952	Organize a Family Sports Day			
<input type="checkbox"/>	16/4/26 10:53:04	12842952	Smart Shopping for Kids' Snacks			
<input type="checkbox"/>	21/4/26 11:05:33	12842952	From Farmer's market			
<input type="checkbox"/>	13/4/26 10:36:32	12842952	Track Daily Water Intake			
<input type="checkbox"/>	14/4/26 10:40:26	12842952	Create a Healthy Eating Chart			
<input type="checkbox"/>	9/4/26 10:33:05	12842952	Nearest Park for a Walk			
<input type="checkbox"/>	10/4/26 10:35:39	12842952	Calcium-Rich Foods			
<input type="checkbox"/>	3/4/26 10:13:14	12842952	Weekend Soccer Game			
<input type="checkbox"/>	15/4/26 10:45:45	12842952	Kid-Friendly Cookbooks			
<input type="checkbox"/>	19/4/26 11:03:31	12842952	Host a Cook-Off with Friends			

Page Size: 20

Figure 17 User Micro-Moments

Data Erasure Request 🔔 0 ⌵ ⚙️

Text to search... 🔍 ↻

<input type="checkbox"/>	Created	User	Request	Comment
 <p>No data to display</p>				

Page Size: 20

Figure 18 Requests. Data Erasure Request

2.4 Open Toolkit

The Open Toolkit includes interfaces for the Risk Assessment module and the Recommendation Engine.

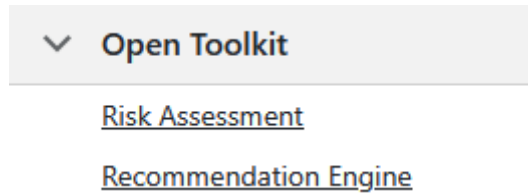
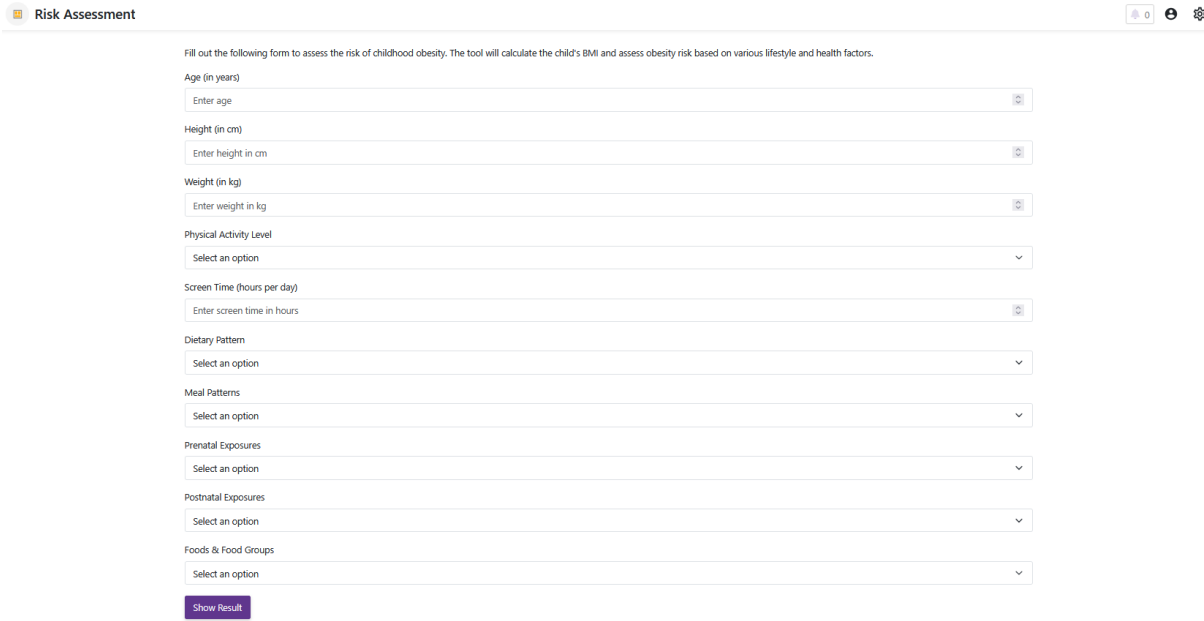


Figure 19 Open Toolkit Menu



The screenshot shows the 'Risk Assessment' form. At the top, it says 'Fill out the following form to assess the risk of childhood obesity. The tool will calculate the child's BMI and assess obesity risk based on various lifestyle and health factors.' The form includes the following fields:

- Age (in years): Enter age
- Height (in cm): Enter height in cm
- Weight (in kg): Enter weight in kg
- Physical Activity Level: Select an option
- Screen Time (hours per day): Enter screen time in hours
- Dietary Pattern: Select an option
- Meal Patterns: Select an option
- Prenatal Exposures: Select an option
- Postnatal Exposures: Select an option
- Foods & Food Groups: Select an option

A 'Show Result' button is located at the bottom of the form.

Figure 20 Risk Assessment



The screenshot shows the 'Recommendation Engine' form. It includes the following fields:

- User ID: Enter user id
- Age (in years): Enter age
- Height (in cm): Enter height in cm
- Weight (in kg): Enter weight in kg
- Physical Activity Level: Select an option
- Dietary Habits: Select an option
- Family History of Obesity or Diabetes: Select an option

A 'Get Recommendations' button is located at the bottom of the form.

Figure 21 Recommendation Engine

2.5 Public Portals

The Public Portals include three main interfaces serving different groups of interest. The MarketPlace presents the BIO-STREAMS applications, including ActiveHealth and other serious games developed as part of the project, providing information and resources for interested users.

The Community Network facilitates connection between researchers, clinics, and organizations interested in the work of BIO-STREAMS, providing contact information and

resources for collaboration. The Knowledge Hub provides access to documented knowledge, research, and publications developed within the scope of the project, facilitating the dissemination of research findings.

Collectively, these public-facing interfaces contribute to the visibility, dissemination, and external engagement objectives of the project by making selected BIO-STREAMS resources accessible to broader stakeholder communities beyond the internal operational environment.

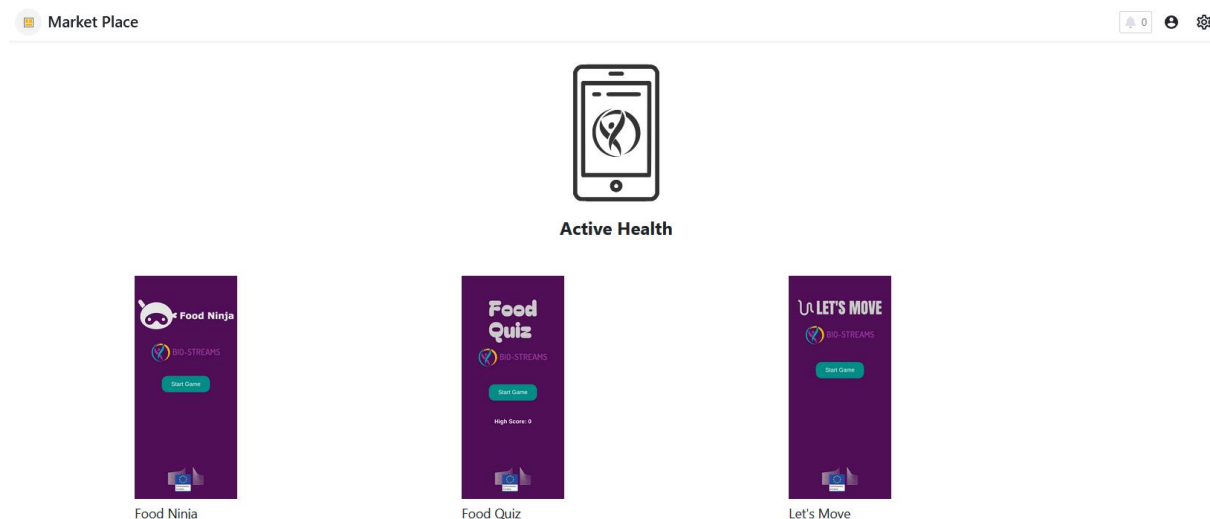


Figure 22 MarketPlace

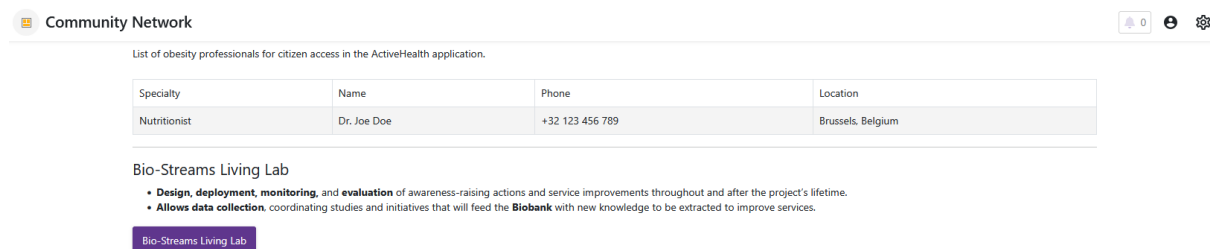


Figure 23 Community Network

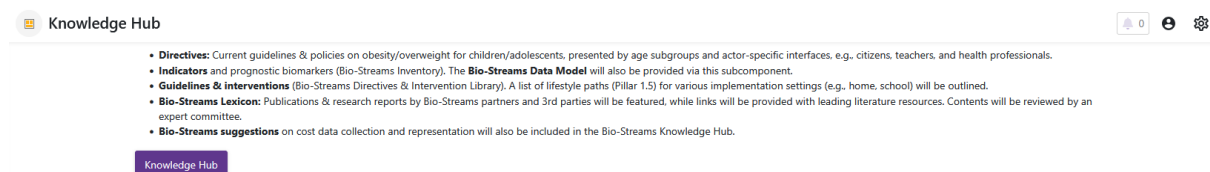


Figure 24 Knowledge Hub

2.6 Biobank

The Biobank interface provides visibility into the status and availability of the BIO-STREAMS node bundles across participating sites. Through this view, authorized users can obtain an overview of infrastructure readiness and operational status, supporting coordination of distributed deployment activities and helping identify whether the required site-level services are available within the broader platform ecosystem. This component therefore contributes to the practical supervision of the federated technical environment underpinning the BIO-STREAMS platform.

Node Bundles

+ New Delete Text to search... [Search Icon] [Refresh Icon]

<input type="checkbox"/>	Name	Id	Code	Port	Country	Language	Citizen Bundle	Enabled	Url
<input type="checkbox"/>	Blocks Health and Social Care EOOD	4	BLOCKS	10.007	Bulgaria	Bulgarian	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10007
<input type="checkbox"/>	Citizen Node Bundle	8	CITIZEN	10.015	Greece	English	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10015
<input type="checkbox"/>	Karolinska Institute	3	KI	10.005	Sweden	Swedish	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10005
<input type="checkbox"/>	National and Kapodistrian University of Athens	2	NKUA	10.003	Greece	Greek	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10003
<input type="checkbox"/>	Penteli General Children's Hospital	7	PENTELI	10.013	Greece	Greek	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10013
<input type="checkbox"/>	University Clinical Centre Maribor	1	UKCM	10.001	Slovenia	Slovenian	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10001
<input type="checkbox"/>	University Hospital of Liège	6	CHUL	10.011	Belgium	French	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10011
<input type="checkbox"/>	Vall d'Hebron Research Institute	5	VHIR	10.009	Spain	Spanish	<input type="checkbox"/>	<input checked="" type="checkbox"/>	nodegateway.dev.bio-streams.eu:10009

Page Size: 20

Figure 25 Node Bundles Status

2.7 Cost Data

The Cost Data component provides access to cost-related information associated with healthcare provision and the interventions evaluated within BIO-STREAMS. It supports the structured collection and review of economic data relevant to pilot activities, enabling users to inspect cost-related inputs in a centralized environment. This contributes to the broader project objective of combining clinical, operational, and economic perspectives within a unified digital platform.

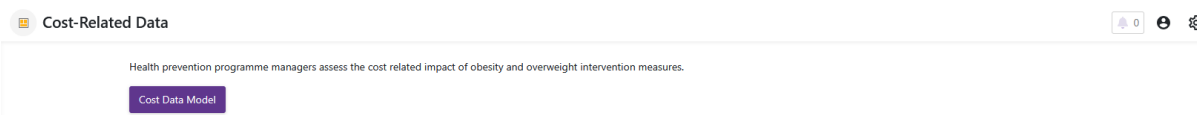


Figure 26 Cost-Related Data

2.8 Observability

Observability offers oversight of the BIO-STREAMS system through multiple integrated tools supporting analytics, activity tracking, and infrastructure monitoring. The Analytics sub-section provides access to Matomo, enabling the monitoring of user interaction with the ActiveHealth application and serious games.

The User Activity sub-section presents operational activity records associated with dashboard usage, including actions such as logins, logouts, and data creation events. The Observability sub-section provides access to Grafana dashboards, where users can inspect system-level monitoring metrics and performance indicators collected from BIO-STREAMS services and servers. Together, these interfaces support operational transparency, troubleshooting, and continuous monitoring of platform usage and performance.

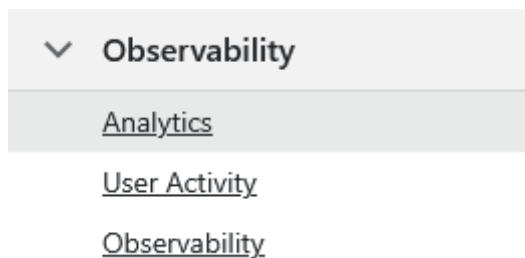


Figure 27 Observability Menu

User Activity

Text to search...

User	Date	Activity	IP
ikouris	30/3/26 18:45:27	Log in	79.130.39.83
ikouris	30/3/26 19:02:50	Log in	79.130.39.83
ikouris	30/3/26 19:03:22	Log in	79.130.39.83
ikouris	30/3/26 19:03:36	Log in	79.130.39.83
ikouris	30/3/26 19:03:36	Logged out	79.130.39.83
ikouris	30/3/26 19:04:44	Log in	79.130.39.83
ikouris	30/3/26 19:05:06	Log in	79.130.39.83
ikouris	30/3/26 19:05:06	Logged out	79.130.39.83
ikouris	30/3/26 19:08:37	Log in	79.130.39.83
ikouris	30/3/26 19:12:49	Log in	79.130.39.83
ikouris	30/3/26 19:26:35	Log in	79.130.39.83
virtualclinician	30/3/26 19:56:35	Log in	79.130.39.83
virtualclinician	30/3/26 19:57:44	Log in	79.130.39.83
virtualclinician	30/3/26 20:02:49	Log in	79.130.39.83
15711330	30/3/26 20:03:40	Log in	
15711330	30/3/26 20:53:01	Log in	
virtualclinician	30/3/26 20:53:41	Log in	79.130.39.83
15711330	30/3/26 20:54:00	Log in	
15711330	31/3/26 5:22:00	Log in	
virtualclinician	31/3/26 7:06:42	Log in	79.130.39.83

Page Size: 20

Figure 28 User Activity

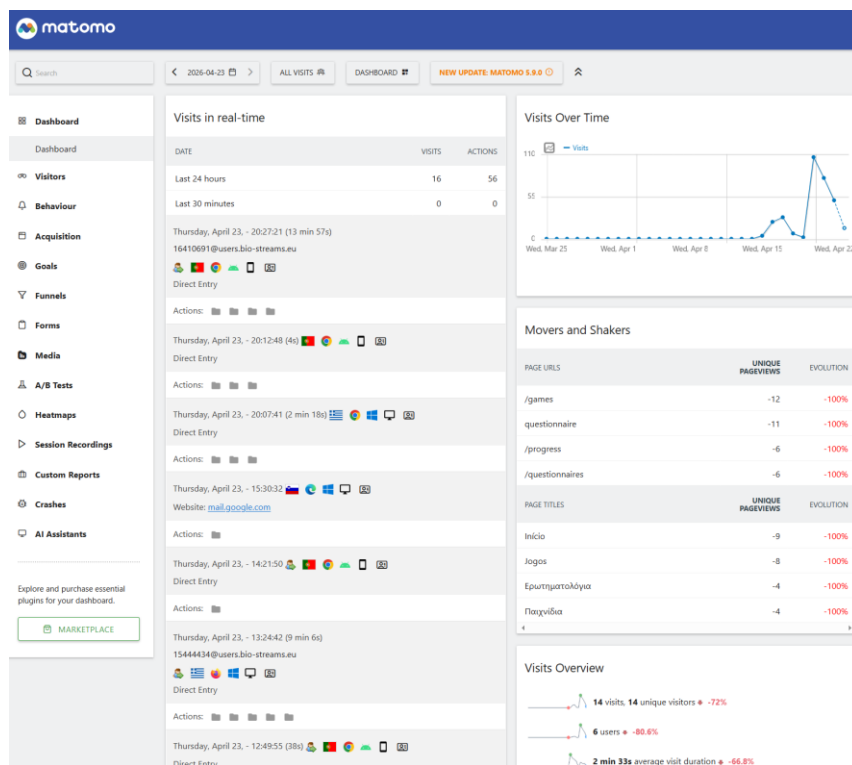


Figure 29 Analytics main screen

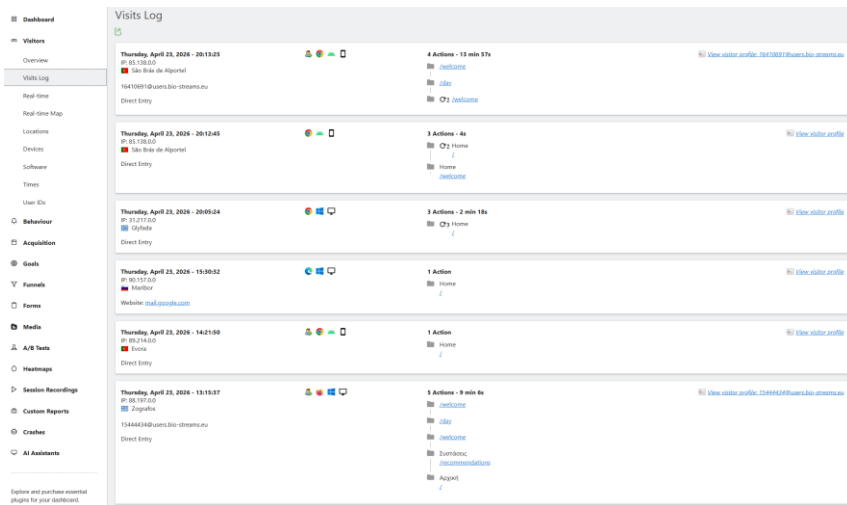


Figure 30 Activity analytics

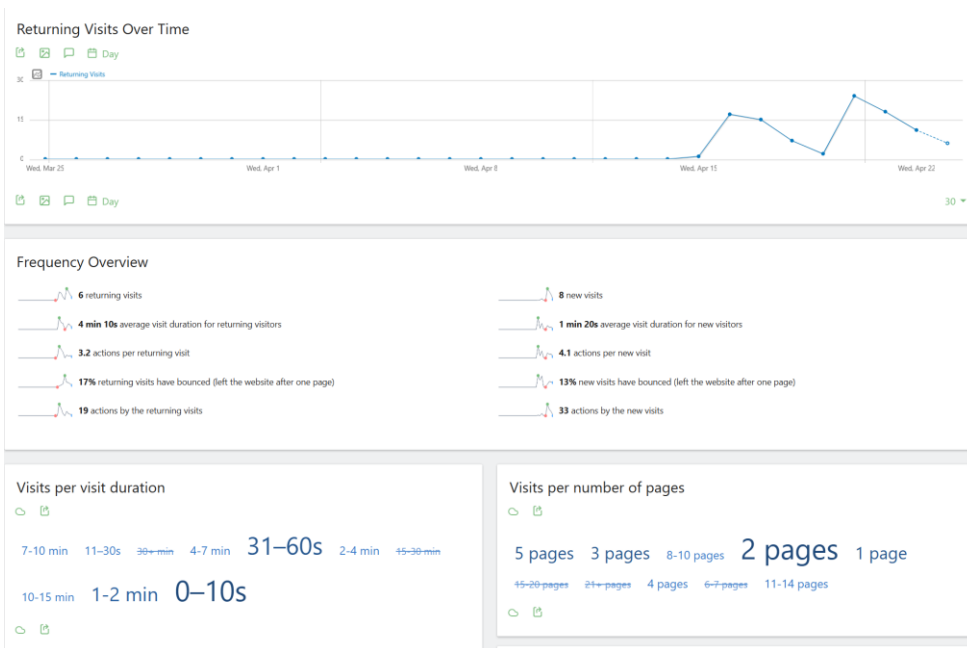


Figure 31 In depth analysis of activity

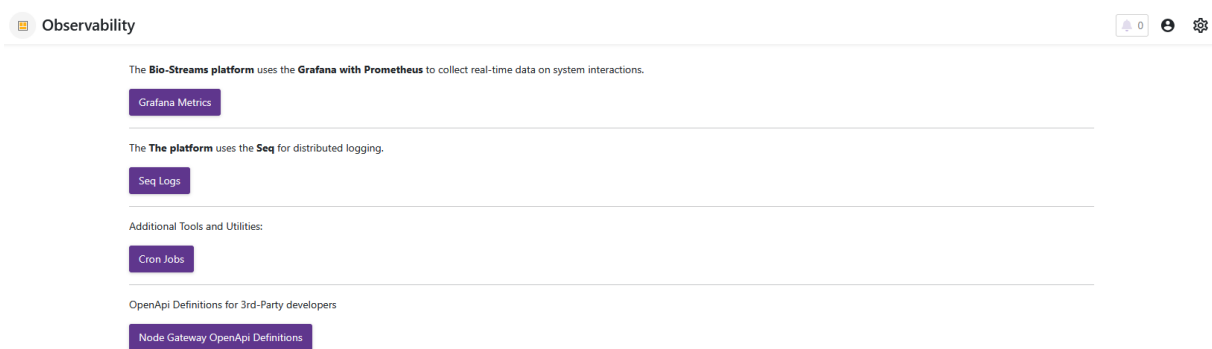


Figure 32 Observability

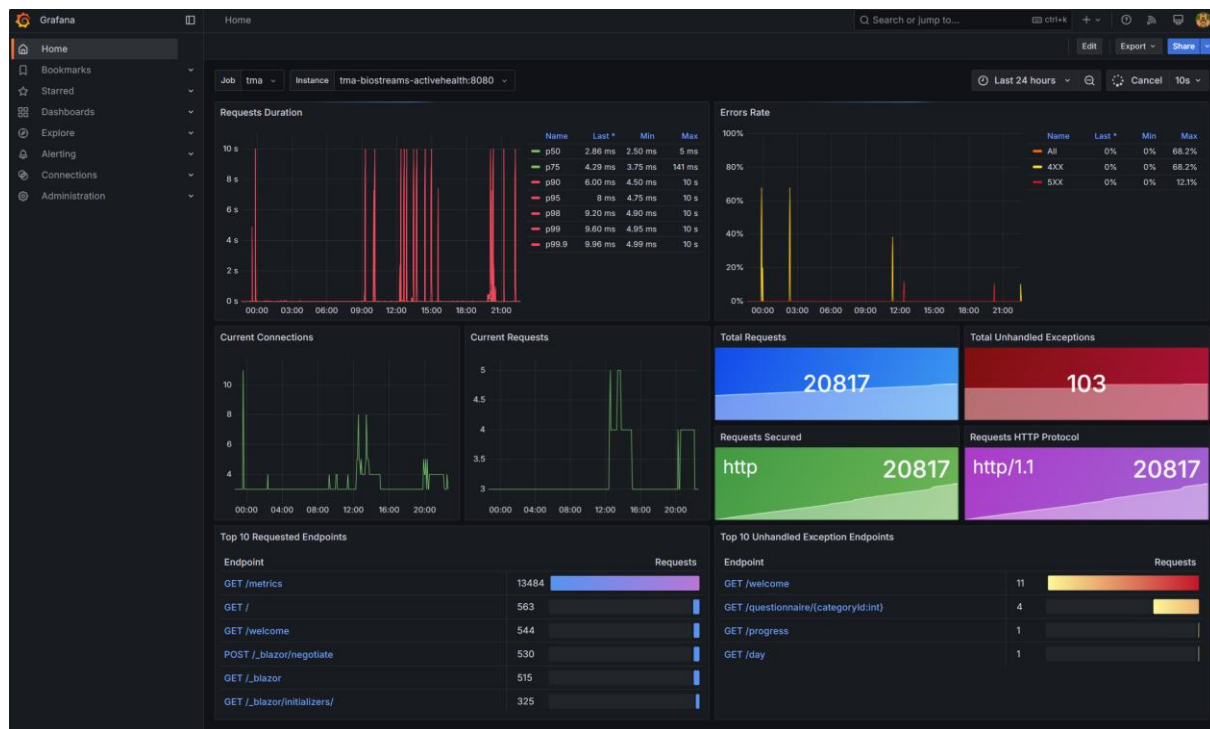


Figure 33 Grafana dashboards

2.9 Micro-Moments

Micro-Moments include four main categories of interventions. The "I-want-to-know" moments provide educational information and updates about health when the user is indicated to learn more. The "I-want-to-go" moments offer recommendations for activities or services that the user can participate in. The "I-want-to-do" moments provide interventions that encourage the user to complete specific activities. Lastly, the "I-want-to-buy" moments offer information about products or services that the user may purchase.

Their presentation within the dashboard allows administrators to inspect how micro-moment content is organized across intervention types. These categories provide a structured framework for delivering timely and context-aware interventions to users, supporting the personalization objectives of the ActiveHealth environment.

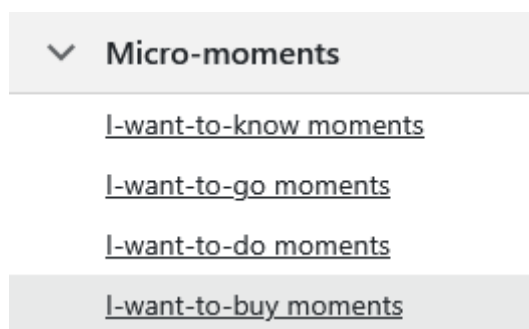


Figure 34 Micro-moments Categories

2.10 ActiveHealth Settings

ActiveHealth Settings provide access to the core configuration options for the ActiveHealth application. The Diary Question section displays the questions that are presented to users within the application's diary feature, allowing administrators to view and understand what data collection prompts are being presented to participants. The Recommendations section shows the recommendation content and configuration that is being delivered to users through the application. The Recommendation Categories section displays how recommendations are organized and categorized within the system. The Self-Report Questionnaires section provides visibility into the standardized questionnaires that are available for administration to study participants, allowing administrators to understand what assessment instruments are being used for data collection within the ActiveHealth application.

This configuration area supports transparency and administrative oversight over the content structures used in the participant-facing application. By exposing key configurable elements through the Dashboard, it facilitates controlled management of intervention content, questionnaire assets, and diary-related data collection prompts.

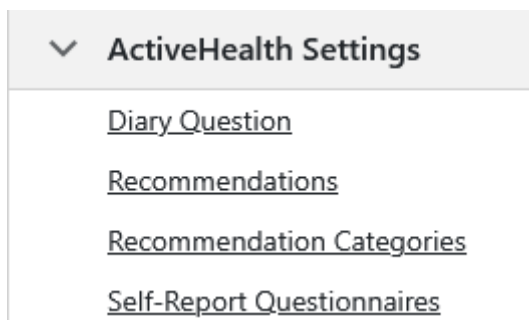


Figure 35 ActiveHealth Settings Menu

Diary Question 🔔 0 🗨️ ⚙️

+ New Delete 🔍 🔄 🏠

<input type="checkbox"/>	Category	↑ ↓	In ↑ ↓	Question	Description	Display Summary
<input type="checkbox"/>				5 How many glasses* of sugar-sweetened beverages (e.g., sodas with sugar, sweetened juices) did you drink yesterday?	At 05:00 PM, every day	5. How many glasses* of sugar-sweetened beverages (e.g., sodas with sugar, sweetened juices) did you drink yesterday?
<input type="checkbox"/>	035f7b34-d158-4dcc-8c08-27745c25a360			1 I'm good at resisting tempting food	At 10:00 AM, every 2 days	1. I'm good at resisting tempting food
<input type="checkbox"/>	035f7b34-d158-4dcc-8c08-27745c25a360			2 I give up too easily on my eating intentions	At 10:00 AM, every 2 days	2. I give up too easily on my eating intentions
<input type="checkbox"/>	035f7b34-d158-4dcc-8c08-27745c25a360			3 I easily get distracted from my eating intentions	At 10:00 AM, every 2 days	3. I easily get distracted from my eating intentions
<input type="checkbox"/>	035f7b34-d158-4dcc-8c08-27745c25a360			4 I find it hard to remember what I have eaten throughout the day	At 10:00 AM, every 2 days	4. I find it hard to remember what I have eaten throughout the day
<input type="checkbox"/>	035f7b34-d158-4dcc-8c08-27745c25a360			5 If I am not eating in the way I intend to I make changes	At 10:00 AM, every 2 days	5. If I am not eating in the way I intend to I make changes
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			1 I feel that the researchers might ask me too many questions	At 10:00 AM, every 2 days	1. I feel that the researchers might ask me too many questions
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			2 I feel that the researchers might ask me questions that are too personal	At 10:00 AM, every 2 days	2. I feel that the researchers might ask me questions that are too personal
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			3 I feel that the researchers might call or contact me or my family members too often	At 10:00 AM, every 2 days	3. I feel that the researchers might call or contact me or my family members too often
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			4 I feel that my personal information might not be kept private	At 10:00 AM, every 2 days	4. I feel that my personal information might not be kept private
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			5 I feel that I may become emotionally upset by the research procedure(s)	At 10:00 AM, every 2 days	5. I feel that I may become emotionally upset by the research procedure(s)
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			6 I feel that I may have second thoughts about my decision to participate in this study	At 10:00 AM, every 2 days	6. I feel that I may have second thoughts about my decision to participate in this study
<input type="checkbox"/>	0591efdb-2b38-4c01-ab03-b84ec3c8e087			7 I feel that I may regret my decision to participate in this study	At 10:00 AM, every 2 days	7. I feel that I may regret my decision to participate in this study
<input type="checkbox"/>	0662d5fa-9918-4d70-883c-490c5138db2			1 Have you physically felt fit and well?	At 10:00 AM, every 2 days	1. Have you physically felt fit and well?
<input type="checkbox"/>	0662d5fa-9918-4d70-883c-			2 Have you felt full of energy?	At 10:00 AM, every	2. Have you felt full of energy?

Page Size: 20

Figure 36 Diary Questions

Recommendations

0 0 0

+ New Delete Text to search... Q ↗

<input type="checkbox"/>	Ca ↑	Name	L...	Ag Gr	Min Acti... Level	Max Acti... Level	Min Screen Time Level	Max Screen Time Level	Min Fruit Veg Intake	Max Fruit Veg Intake	Min Sugar Beverage Intake	Max Sugar Beverage Intake	Min Snack Frequ...	Max Snack Frequ...	Min Sleep Qua...	Max Sleep Qua...
<input type="checkbox"/>	Balanced Meals	Avoid processed foods and focus on fresh														
<input type="checkbox"/>	Balanced Meals	Prepare meals at home to control portion sizes and ingredients.														
<input type="checkbox"/>	Balanced Meals	Ensure each meal includes a balance of protein														
<input type="checkbox"/>	Balanced Meals	Encourage mindful eating by avoiding distractions during meals.														
<input type="checkbox"/>	Bedtime Routine	Establish a consistent bedtime and wake-up routine.														
<input type="checkbox"/>	Bedtime Routine	Avoid screens at least one hour before bedtime.														
<input type="checkbox"/>	Bedtime Routine	Encourage reading or listening to calming music before sleep.														
<input type="checkbox"/>	Commun... Resources	Explore school programs that encourage physical activity and nutrition.														
<input type="checkbox"/>	Commun... Resources	Enroll your child in a community sports team or activity club.														
<input type="checkbox"/>	Commun... Resources	Visit parks														
<input type="checkbox"/>	Emotional Well-being	Help your child manage stress with relaxation techniques like deep breathing.														
<input type="checkbox"/>	Emotional Well-being	Encourage a positive body image by focusing on health rather than weight.														

1 2 Page Size: 20

Figure 37 Recommendations

Recommendation Categories

0 0 0

+ New Delete Text to search... Q ↗

<input type="checkbox"/>	Name	Stable Code	Tracking Category	Index
<input type="checkbox"/>	Balanced Meals		Diet - Meal & Beverage Intake	3
<input type="checkbox"/>	Hydration Goals		Diet - Meal & Beverage Intake	6
<input type="checkbox"/>	Physical Activity Goals		Physical Activity - Exercise & Movement	9
<input type="checkbox"/>	Screen Time Limit		Screen Time - Digital Consumption	12
<input type="checkbox"/>	Sleep Goals		Sleep - Duration & Quality	15
<input type="checkbox"/>	Bedtime Routine		Sleep - Duration & Quality	18
<input type="checkbox"/>	Family Involvement		Family Time - Shared Activities	21
<input type="checkbox"/>	Encourage Consistency		Family Time - Shared Activities	24
<input type="checkbox"/>	Emotional Well-being		Mood - Emotional Well-being	27
<input type="checkbox"/>	Mental Health & Mindfulness		Mood - Emotional Well-being	30
<input type="checkbox"/>	Community Resources		Physical Activity - Exercise & Movement	33

1 Page Size: 20

Figure 38 Recommendation Categories

Self-Report Questionnaires

0 0 0

+ New Finalize Text to search... Q ↗

<input type="checkbox"/>	Code	Title	Display Summary	↑	S D	E D	User	Is F	Is A N	Is Active	Outcome
<input type="checkbox"/>	10	Exercise Self-Regulation Questionnaire (SRQ-E)	10 - Exercise Self-Regulation Questionnaire (SRQ-E)				ikouris	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	11	Self-regulation of eating behavior Questionnaire (SREBQ)	11 - Self-regulation of eating behavior Questionnaire (SREBQ)				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	12	Ohio State University WHO-5 Well-being Index Questionnaire	12 - Ohio State University WHO-5 Well-being Index Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	13	KIDSCREEN-10 Index Health Questionnaire for Children and Young People	13 - KIDSCREEN-10 Index Health Questionnaire for Children and Young People				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	14	Food and Nutrition Literacy (FNLIT) Questionnaire	14 - Food and Nutrition Literacy (FNLIT) Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	15	User Experience (UEQ-5) – Short version Questionnaire	15 - User Experience (UEQ-5) – Short version Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	16	Acceptance and Trust Questionnaire	16 - Acceptance and Trust Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	17	System Usability Scale (SUS) age 7-8 Questionnaire	17 - System Usability Scale (SUS) age 7-8 Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	18	System Usability Scale (SUS) age 9-11 Questionnaire	18 - System Usability Scale (SUS) age 9-11 Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	19	System Usability Scale (SUS) age 12-18 Questionnaire	19 - System Usability Scale (SUS) age 12-18 Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	20	Perceived Research Burden Assessment (PeRBA) Questionnaire	20 - Perceived Research Burden Assessment (PeRBA) Questionnaire				ikouris	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	7	Penn State Worry Questionnaire for Children (PSWQ-C)	7 - Penn State Worry Questionnaire for Children (PSWQ-C)				ikouris	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	8	Center for Epidemiological Studies Depression Scale for Children (CES-DC4)	8 - Center for Epidemiological Studies Depression Scale for Children (CES-DC4)				ikouris	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	9	Weight Self-Stigma Questionnaire (WSSQ)	9 - Weight Self-Stigma Questionnaire (WSSQ)				ikouris	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

1 Page Size: All

Figure 39 Self-Report Questionnaires

2.11 Administration

The Administration page offers management capabilities for system administrators. The Bio-Stream Users sub-section allows creating, modifying, and deleting user accounts, as well as assigning roles and permissions. The Roles sub-section allows managing system roles and their associated permissions. The Languages sub-section allows managing the languages supported by the system.

Through these administration functions, the Dashboard supports secure role-based governance of the platform and ensures that user access, permissions, and language-related settings can be centrally managed. This component is essential for the controlled operation of the multi-user BIO-STREAMS environment.

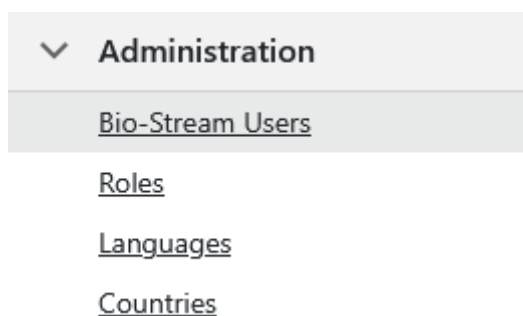


Figure 40 Menu

Application User

+ New Delete Push Notification Text to search...

<input type="checkbox"/>	User Na...	Na	Email	Crea... By	Is Visible To Creator	Nc	Access Node	Access School	Crea...	Lan...	Node Validation	Is Node Valid For Creator
<input type="checkbox"/>	annapan	Anna	annapan@biome...	avezakis	<input type="checkbox"/>		National and Kapodistrian University of Athens		23/4/26 4:49:09	English	AccessNode: National and Kapodistrian University of Athens. CitizenBundle: False	<input checked="" type="checkbox"/>
<input type="checkbox"/>	avezakis	Andr...	avezakis@biome...	ikouris	<input type="checkbox"/>		National and Kapodistrian University of Athens	School-test	31/3/26 19:10:33	Greek	AccessNode: National and Kapodistrian University of Athens. CitizenBundle: False	<input checked="" type="checkbox"/>
<input type="checkbox"/>	olgamen	Olga	olga@biomed.nt...	avezakis	<input type="checkbox"/>		National and Kapodistrian University of Athens		22/4/26 10:01:52	Greek	AccessNode: National and Kapodistrian University of Athens. CitizenBundle: False	<input checked="" type="checkbox"/>
<input type="checkbox"/>	test-vez1	test-vez1	avezakis@hotmail...	avezakis	<input type="checkbox"/>		University Hospital of Liège		3/4/26 10:01:58	Slovenian	AccessNode: University Hospital of Liège. CitizenBundle: False	<input checked="" type="checkbox"/>
<input type="checkbox"/>	test-vez2	test-vez2	test-vez2@hotmail.com	avezakis	<input type="checkbox"/>		National and Kapodistrian University of Athens		5/4/26 8:01:43	Greek	AccessNode: National and Kapodistrian University of Athens. CitizenBundle: False	<input checked="" type="checkbox"/>

Page Size: 20

Figure 41 Bio-Stream Users. Viewing Application Users

Role

+ New Clone... Delete Permission Generator Permission Apply Text to search...

<input type="checkbox"/>	Name	Is Administrative	Can Edit Model
<input type="checkbox"/>	ActiveHealthProvider	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	ActiveHealthUser	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Administrator	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	BioStreamExecutive	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Developer	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	NodeBundleAdministrator	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	PolicyMaker	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Researcher	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	SchoolPilotAdministrator	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	TechnicalSupport	<input type="checkbox"/>	<input type="checkbox"/>

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Figure 42 Roles

Languages

+ New Delete Text to search...

<input type="checkbox"/>	Name	Id	Language
<input type="checkbox"/>	Bulgarian	bg-BG	Български
<input type="checkbox"/>	Danish	da-DK	Dansk
<input type="checkbox"/>	Dutch	nl-NL	Nederlands
<input type="checkbox"/>	English	en-GB	English
<input type="checkbox"/>	French	fr-BE	Français
<input type="checkbox"/>	Greek	el-GR	Ελληνικά
<input type="checkbox"/>	Portuguese	pt-PT	Português
<input type="checkbox"/>	Slovenian	sl-SI	Slovenščina
<input type="checkbox"/>	Spanish	es-ES	Español
<input type="checkbox"/>	Swedish	sv-SE	Svenska

Page Size: 20

Figure 43 Languages

Χώρες

Text to search...

<input type="checkbox"/>	Name (en)	ISO2	EU Vat	Phone Code	Continent
<input type="checkbox"/>	Afghanistan	AF		93	AS
<input type="checkbox"/>	Aland islands	AX		358	EU
<input type="checkbox"/>	Albania	AL			EU
<input type="checkbox"/>	Algeria	DZ			AF
<input type="checkbox"/>	American Samoa	AS			OC
<input type="checkbox"/>	Andorra	AD		376	EU
<input type="checkbox"/>	Angola	AO		244	AF
<input type="checkbox"/>	Anguilla	AI		1-264	NA
<input type="checkbox"/>	Antarctica	AQ		672	AN
<input type="checkbox"/>	Antigua and Barbuda	AG		1-268	NA
<input type="checkbox"/>	Argentina	AR		54	SA
<input type="checkbox"/>	Armenia	AM		374	AS
<input type="checkbox"/>	Aruba	AW		297	NA
<input type="checkbox"/>	Australia	AU		61	OC
<input type="checkbox"/>	Austria	AT	AT	43	EU
<input type="checkbox"/>	Azerbaijan	AZ		994	AS
<input type="checkbox"/>	Bahamas	BS			NA
<input type="checkbox"/>	Bahrain	BH			AS
<input type="checkbox"/>	Bangladesh	BD		880	AS
<input type="checkbox"/>	Barbados	BB		1-246	NA

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Figure 44 Countries

2.12 Reports

The Reports interface provides access to reporting views that support the review of platform activity and operational information in a consolidated manner. Through this component, users can inspect summarized outputs relevant to ongoing platform operation, facilitating a higher-level understanding of system usage and administrative activity. The Reports section complements the more detailed monitoring and management views available elsewhere in the Dashboard by presenting selected information in a form suitable for overview, follow-up, and internal coordination purposes.

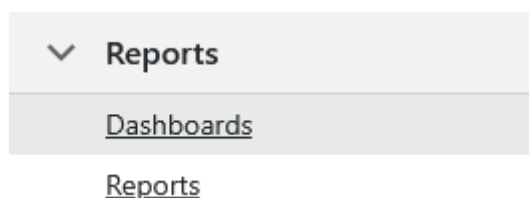


Figure 45 Menu

2.13 Account

The Account section provides user-level account and profile management capabilities, including access to personalized settings, profile details, and support-related information. Through this interface, users can review their personal account information and access help-oriented resources that support their use of the Dashboard. This component contributes to a more complete and user-oriented administrative experience within the BIO-STREAMS platform.

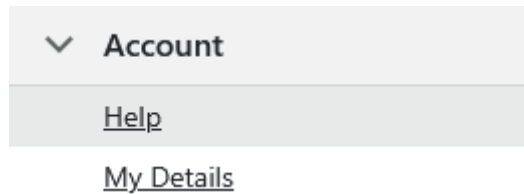
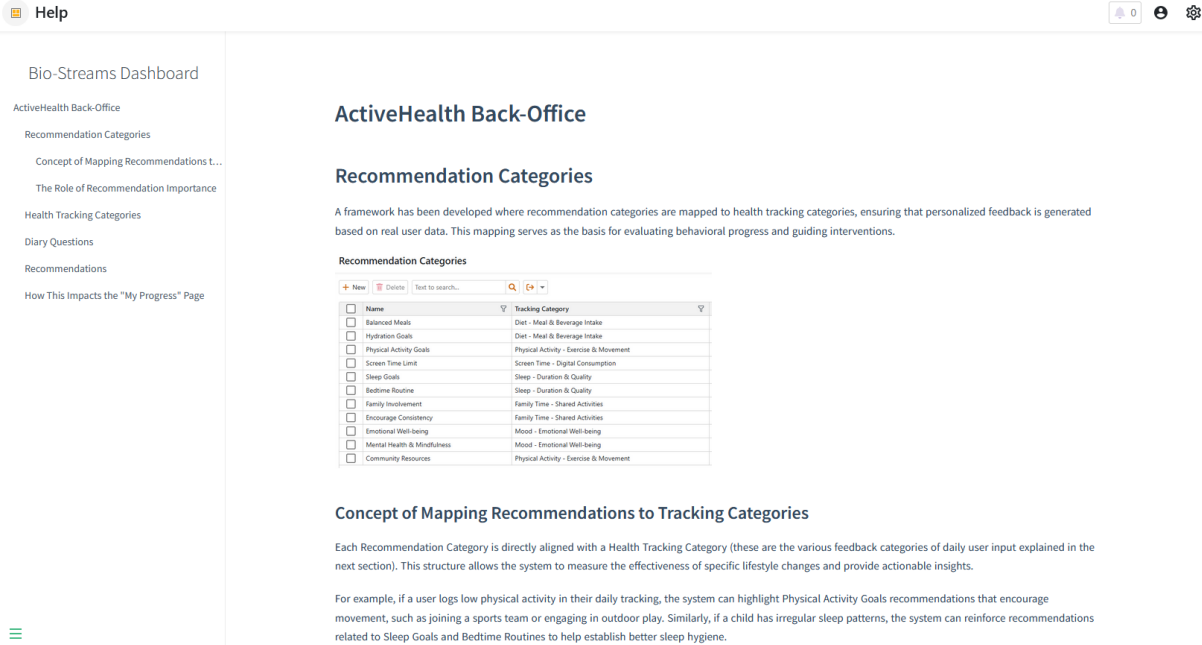


Figure 46 Menu



ActiveHealth Back-Office

Recommendation Categories

A framework has been developed where recommendation categories are mapped to health tracking categories, ensuring that personalized feedback is generated based on real user data. This mapping serves as the basis for evaluating behavioral progress and guiding interventions.

Recommendation Categories

Name	Tracking Category
<input type="checkbox"/> Balanced Meals	Diet - Meal & Beverage Intake
<input type="checkbox"/> Hydration Goals	Diet - Meal & Beverage Intake
<input type="checkbox"/> Physical Activity Goals	Physical Activity - Exercise & Movement
<input type="checkbox"/> Screen Time Limit	Screen Time - Digital Consumption
<input type="checkbox"/> Sleep Goals	Sleep - Duration & Quality
<input type="checkbox"/> Bedtime Routine	Sleep - Duration & Quality
<input type="checkbox"/> Family Involvement	Family Time - Shared Activities
<input type="checkbox"/> Encourage Consistency	Family Time - Shared Activities
<input type="checkbox"/> Emotional Well-being	Mood - Emotional Well-being
<input type="checkbox"/> Mental Health & Mindfulness	Mood - Emotional Well-being
<input type="checkbox"/> Community Resources	Physical Activity - Exercise & Movement

Concept of Mapping Recommendations to Tracking Categories

Each Recommendation Category is directly aligned with a Health Tracking Category (these are the various feedback categories of daily user input explained in the next section). This structure allows the system to measure the effectiveness of specific lifestyle changes and provide actionable insights.

For example, if a user logs low physical activity in their daily tracking, the system can highlight Physical Activity Goals recommendations that encourage movement, such as joining a sports team or engaging in outdoor play. Similarly, if a child has irregular sleep patterns, the system can reinforce recommendations related to Sleep Goals and Bedtime Routines to help establish better sleep hygiene.

Figure 47 Help

Application User **avezakis** 0 ⌵ ⚙️

🗑️ Delete 📧 Push Notification ⏪ ⏩ 🔄 💾 Save and New 💾 Save

Application User

Name* Access School

Email* Token Valid

Created By Created

Is Visible To Creator Language

Access Node Demo Account

Node Validation

Is Node Valid For Creator

User Name*

Is Active

Requests Activity Roles

+ New 📄 Clone... 🔗 Link 🔗 Unlink 🗑️ Delete 🔧 Permission Generator 📄 Permission Apply 🔍 🔄

<input type="checkbox"/>	Name	↑ ↓	Is Administrative	Can Edit Model
<input type="checkbox"/>	Administrator		<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Developer		<input checked="" type="checkbox"/>	<input type="checkbox"/>

Page Size:

Figure 48 My Details

3 Platform Deployment and Integration

The BIO-STREAMS Platform Dashboard is deployed on a containerized architecture using Docker [6] and Docker Compose [7], with automated CI/CD [5] pipelines ensuring reproducibility across development, staging, and production environments. The deployment utilizes a reverse proxy (Traefik [8]) for load balancing and service routing, with Keycloak [4] managing centralized authentication and access control.

The platform source code is maintained in version-controlled Git [9] repositories hosted on GitHub [10]. Container images are published to Docker Hub [11] for distribution across deployment environments. All core platform components are successfully integrated and operational on the production environment, supporting multi-site clinical operations, evidence-based decision support, and real-time system observability.

4 Maintenance

The Dashboard is fully operational on the production environment and is currently running and supporting both the clinical and school pilots without issues. The platform is actively delivering the ActiveHealth application to participants across multiple European sites, demonstrating stable and reliable performance in real-world operational settings. At this stage, the focus has shifted from active development to maintenance and support. Bug identification and resolution from pilot site feedback ensures that any issues encountered during clinical operations are systematically tracked and addressed. Performance optimization and capacity planning are continuously monitored to maintain system stability and responsiveness as usage patterns evolve. Security updates and vulnerability patching are regularly applied to protect the integrity of the system and safeguard sensitive health data. User experience refinement based on clinical feedback allows for minor adjustments and improvements to workflows based on actual usage by healthcare professionals and coordinators. Integration testing and validation activities are performed to ensure the continued compatibility of all platform components.

Ongoing support and maintenance activities for the BIO-STREAMS Platform Dashboard are managed through Basecamp [12] Kanban boards, providing transparent visibility into bug fixes, performance optimizations, and incremental feature enhancements based on pilot feedback and operational requirements.

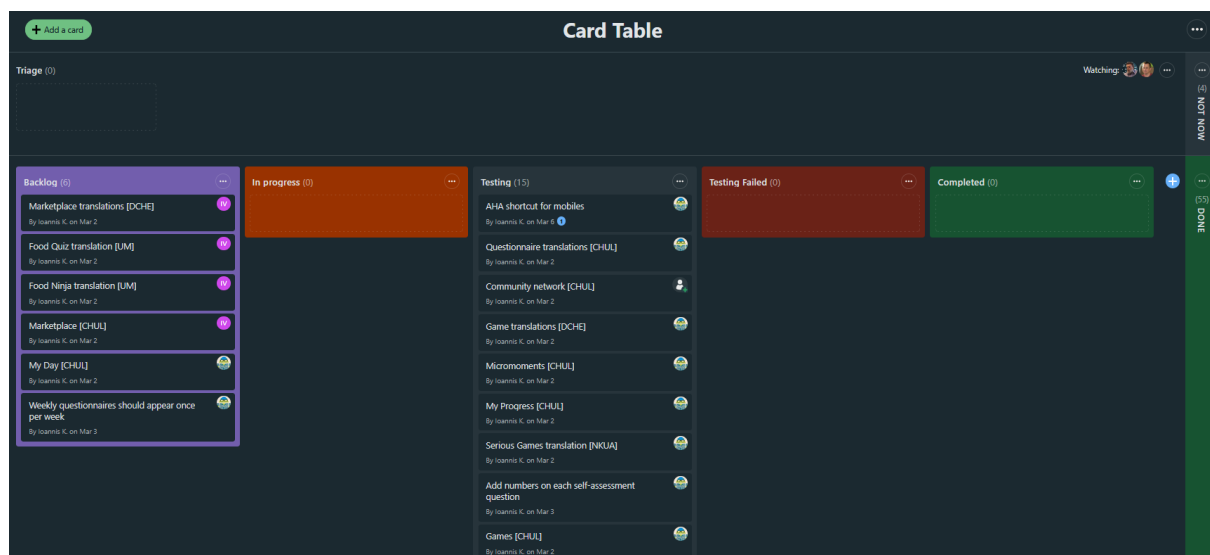


Figure 49 Basecamp Kanban boards interface

5 Conclusions

The BIO-STREAMS Platform Dashboard represents a fully operational and integrated central interface. With all core components deployed, tested, and actively supporting multi-site clinical operations, the Dashboard establishes a robust foundation for stakeholder engagement and platform validation.

The systematic organization of dashboard components according to user roles and functional requirements ensures intuitive navigation and efficient access to all platform capabilities. Ongoing maintenance and development activities, tracked through Kanban-based workflows, demonstrate continuous improvement and responsiveness to stakeholder feedback.

This operational dashboard release prepares the ground for further refinement and validation in subsequent platform releases, including the Beta platform (D5.3) and Final platform (D5.4).

6 References

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