



Join Us to Optimize Health Through Cohort Research

**Deliverable 6.5 Standard Operating Procedures (SOP)
document to engage high school students via the platform**

Version 1.0

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Glossary

D	Deliverable
EC	European Commission
M	Milestone
RRI	Responsible Research and Innovation
SOP	Standard Operating Procedures
USP	Unique selling proposition

Partner abbreviations

EUR	Erasmus University of Rotterdam
EMC	Erasmus Medical Centre
MUB	Medical University of Białystok
SocLab	Fundacja Soclab - Laboratorium Badań i Działań Społecznych
UMG	University Medicine Greifswald
UwB	University of Białystok, Social Science Department

Summary

This document consists of two parts: A. Explanatory and B. Operational. Part A (Explanatory) provides guidance aimed at high school students and teachers on how to use the JoinUs4Health platform, and presents the overall project concept to introduce the user to the basics of the project methodology.

Part B (Operational) deals with the management side of the project and outlines ways how to build student awareness and involvement in the project.

Concept:

Guidelines: Clear guidelines and instructions by developing standard operating procedures will help ensure clarity and understanding regarding the use of the online platform. Youth will have easy access to information on how to register, log in, use various platform features, etc. Clear guidelines make using the platform easier and more intuitive, which contributes to youth engagement.

Training and workshops: Providing training during workshops on how to use the online platform can help youth understand and master its functions. Through instruction, youth can learn how to navigate the platform, create profiles, share content, engage in discussions, and use available resources. These trainings help increase youth's digital competence and increase their confidence in using the platform.

Creating engaging content: It is important for an online platform to be attractive and offer engaging content to capture the attention of youth. Standard operating procedures include guidelines for creating and sharing appropriate content, such as articles, videos, and podcasts. This content should be interesting, interactive, and tailored to the needs and interests of youth, which contributes to their active participation in the platform.

Collaboration and dialogue: Collaboration and dialogue between youth and project organizers helps to promote engagement. Youth should be able to make suggestions and express their opinions and ideas about the topic of interest, the platform and the project as a whole.

1 Introduction

When aiming to encourage young people to use the JoinUs4Health online platform and redirect their attention to using this tool, we found it necessary to carry out multifaceted activities, with a special focus on offline activities, in order to explain, familiarize and encourage young people in a stepwise manner to use the platform and engage in the co-creation of science. This approach is based on our experience in a community in Białystok, Poland, who is unfamiliar with the concept of JoinUs4Health and related concepts in general (crowdsourcing, cohort research, citizen science). Organizing a number of offline activities allowed us to engage young people in using the online platform. As for activating high school students to action through the JoinUs4Health platform, despite the fact that they generally have high digital competence, offline events such as our Hackathon for Health (10.03.2023 in Białystok) may complement or pave the way for online activities by raising initial interest of youth. Here are some reasons why offline activities are potentially useful:

Relationship building: Offline meetings allow youth to interact directly and build relationships with other participants and project leaders. Direct contact and shared experiences can help build bonds, trust and a sense of belonging to the project community.

Motivation and engagement: Offline activities can serve as a source of motivation and engagement for youth. Meetings, workshops, presentations and other interactive activities can make youth more interested in the topic of health and engaged in using the online platform. Offline activities can also encourage complement continued participation and activity on the platform.

Education and skill development: Offline activities can serve as a channel to educate youth about health. Hands-on workshops, lectures and training sessions can provide young people with the knowledge and skills they need to make informed health decisions. These types of activities can strengthen youth competencies and contribute to their personal development.

Enabling experience sharing: Offline meetings enable young people to share their experiences, stories and perspectives on health. Sharing such experiences can be inspiring and motivating for other participants. In addition, offline meetings provide an opportunity to ask questions, get answers and have a live conversation, which promotes interaction and deepens knowledge.

Creating an atmosphere of support and mutual assistance: Offline activities can create an atmosphere of mutual support and assistance among project participants. Group meetings allow youth to share their challenges, concerns and successes related to the topic of health. This fosters a community where young people can motivate and support each other in achieving their health goals.

2 Purpose and importance of standard operational procedures

The purpose of the Standard Operating Procedures (SOP) in the JoinUs4Health project is to ensure an effective and efficient process for engaging youth in participation via the JoinUs4Health online platform (<https://platform.joinus4health.eu/>). The operating procedures are intended to provide clear guidelines and structures for activities that will enable effective youth involvement in the project and enable co-creation of science throughout the platform.

The importance of operating procedures is to:

1. **Facilitate communication:** SOP define communication strategies, channels and tools that help to communicate effectively with youth. They also enable communication to be tailored to the preferences and needs of youth, which contributes to a better understanding of the project and encourages active participation.
2. **Ensure consistency of activities:** SOP define the sequence and timing of activities to ensure consistency and logical progression of the project. They may serve as a basis for the organization of meetings, workshops and other activities to enable youth to participate fully in the project.
3. **Enable youth participation:** SOP create a structure that allows youth to actively participate in the project through the platform. SOP define and explain what a topic is and how to create it on the platform, what suggestions and tasks are as well as how to form a team and achieve the goals through a platform. Moreover, they show a path, through which young people can develop their ideas, gather feedback, and incorporate their decisions and input into the decision-making process.
4. **Monitor progress and results:** SOP include success indicators that can be used for monitoring and evaluation purposes to assess the project's progress and the results achieved by the youth. This makes it possible to correct activities, adjust strategy and ensure that the intended goals are achieved.

In addition, the document has two layers:

- (a) **Exploratory** → allowing the user to get an idea of what the project is about, the place of the JoinUs4Health online platform and its main functionalities.
- (b) **Operational** → providing details on our experiences in Bialystok to date, which can serve as a template for organizing activities in the segment of the audience that is high-school pupils in other regions.

3 Concept

3.1 Context and objectives of JoinUs4Health project

Our mission is to engage research participants, citizens and other social groups from different countries in health research. In this way, we want to achieve an inclusive way of innovation and citizen involvement in cohort research. Deliverable 2.1 ‘Methodological guidelines on implementing RRI and crowdsourcing in cohort research for partners’¹ provides details on RRI and crowdsourcing.

To achieve this goal, it is essential that the different social actors (researchers, citizens, policy makers, businesses, etc.) work together throughout the research and innovation process.



3.2 The JoinUs4Health platform?

The JoinUs4Health platform enables citizens, scientists and other societal groups ([Figure 1](#)) to make health-related suggestions, vote on suggestions of others and offer to coordinate interactions by facilitating a topic. Platform users can then contribute time to interact on selected suggestions that are promoted as topics. As a special feature, Teams have the option to apply for results from three population-based research projects in Germany (Mecklenburg-Pomerania; since 1997²), Poland (Bialystok; since 2020) or the Netherlands (Rotterdam; since 1989³) – see [Figure 2](#).

¹ Public deliverables are accessible via the JoinUs4Health project website: <https://joinus4health.eu/about/for-researchers/>

² Henry Völzke and others, Cohort Profile Update: The Study of Health in Pomerania (SHIP), International Journal of Epidemiology, Volume 51, Issue 6, December 2022, Pages e372–e383, <https://doi.org/10.1093/ije/dyac034>

³ Ikram, M.A., Brusselle, G., Ghanbari, M. et al. Objectives, design and main findings until 2020 from the Rotterdam Study. Eur J Epidemiol 35, 483–517 (2020). <https://doi.org/10.1007/s10654-020-00640-5>

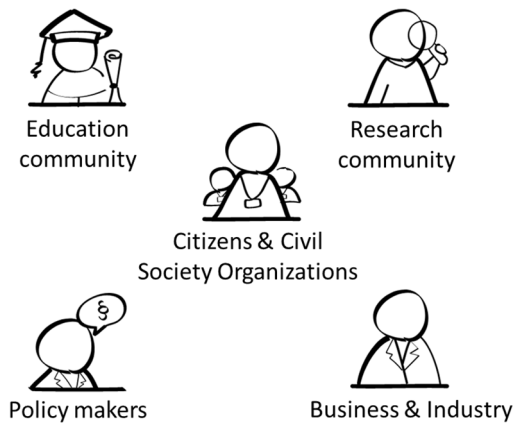


Figure 1. Examples of societal groups targeted by the JoinUs4Health project

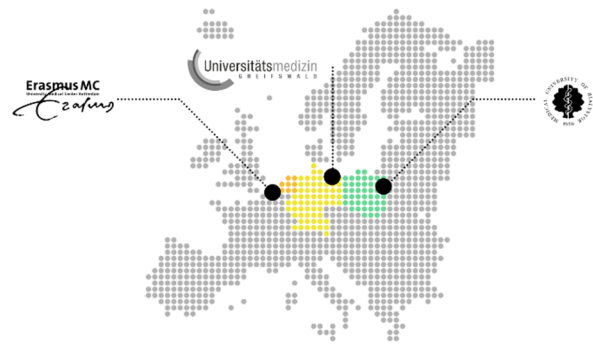


Figure 2. Map showing the location of the three JoinUs4Health partners implementing population-based health (cohort) research for up to three decades

Figure 3 shows an overview of the concept: Every user can submit suggestions (Step 1), vote on other users' suggestions (Step 2) or promote a suggestion to a topic by volunteering to act as contributor or facilitator (community-level interactions). Once a plan is posted for a given topic, team-level interaction can start: Contributors can work in Teams (Step 4) or post tasks to the online community (blue arrow). As a special option, Teams can also apply for cohort results (Step 4e). Outputs are posted via the platform (Step 5).

Note: The minimum age to register on the JoinUs4Health platform is 16 years.

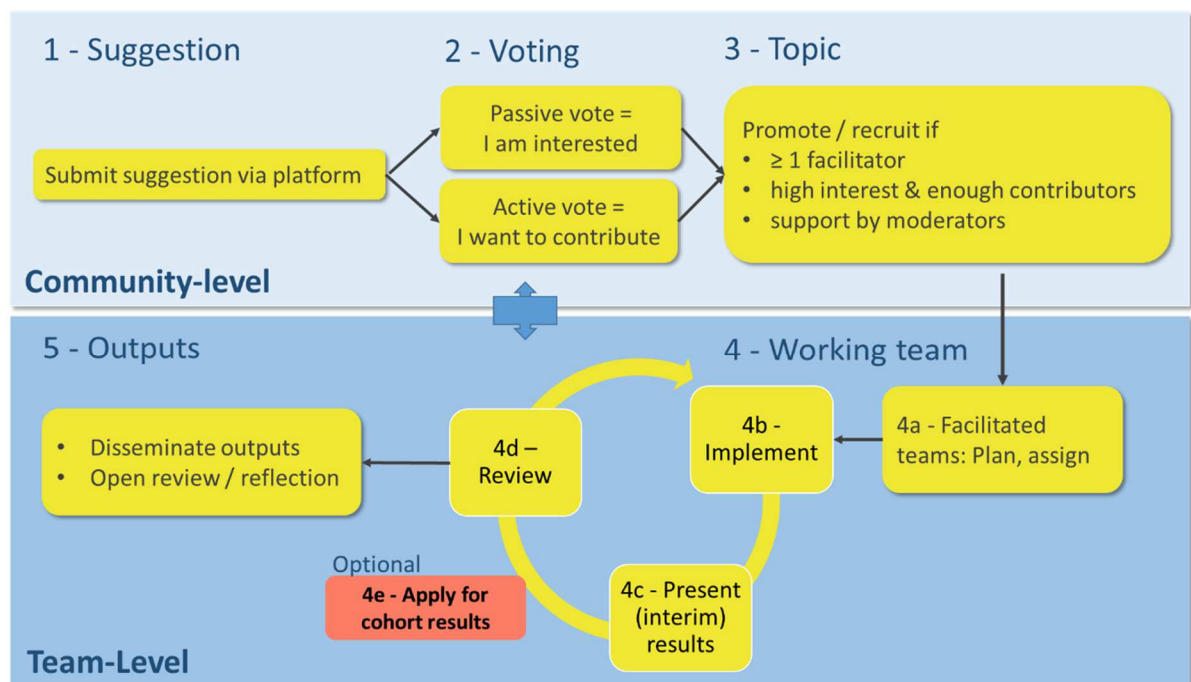


Figure 3. Schematic overview of the concept underlying the development of the JoinUs4Health platform

3.3 Preliminary rules and guidelines to use the JoinUs4Health platform

The details below are sourced from a handbook available also directly from the platform⁴. To date, we could not yet test these guidelines in detail so that they should be regarded as preliminary only and may be adapted based on more in-practice experiences and the number of available contributors.

The preliminary guidelines were developed to provide transparent rules for an item to move from Step 1 (Suggestions) through to Step 5 (Outputs) (see [Figure 3](#)). However, not all these steps may apply: For instance, if a facilitator volunteers to take care of a topic and the topic is regarded as relevant, the topic may be opened on the platform without going through Step 1 (Suggestions) first.

[Figure 4](#) provides an overview of the process: Anybody from the age of 16 years can submit their own suggestion related to health, for example a research question, an information need, an experience report, a general point of interest or an offer. A moderator or reviewer will check the submitted suggestion to ensure that it complies with our rules of conduct and is clearly formulated (Box 1). Once the suggestion is visible on the platform, registered users can up-vote (like), comment, follow, share or volunteer to contribute to the suggestion.

Suggestions

A suggestion can be promoted as a topic if key criteria and at least one of the two additional criteria in Box 2 are fulfilled. The facilitator defines preliminary questions as well as a stepwise plan to answer the questions.

Topics

Once criteria in Box 2 are fulfilled, the Suggestion is promoted as a topic with details on the planned first interactions or input. The topic was initially envisaged to remain open for at least two weeks before interactions (Teams or Tasks) could start. This time was supposed to allow collection of users' feedback to the plan and further recruitment of volunteers. Based on the input, the preliminary plan was supposed to be updated and then serve as basis for interactions.

During those two weeks, recruitment of volunteers can already start. Platform users can let us know that they are willing to contribute time to a topic by clicking "Contribute". The facilitator will then contact the platform user via direct messaging with further details. In case of interest in a topic, but no wish to participate actively, the platform user can also follow a topic to receive updates on the discussion and results.

⁴ Platform Handbook: https://joinus4health.eu/wp-content/uploads/2022/08/JoinUs4Health_handbook_short_v1.pdf

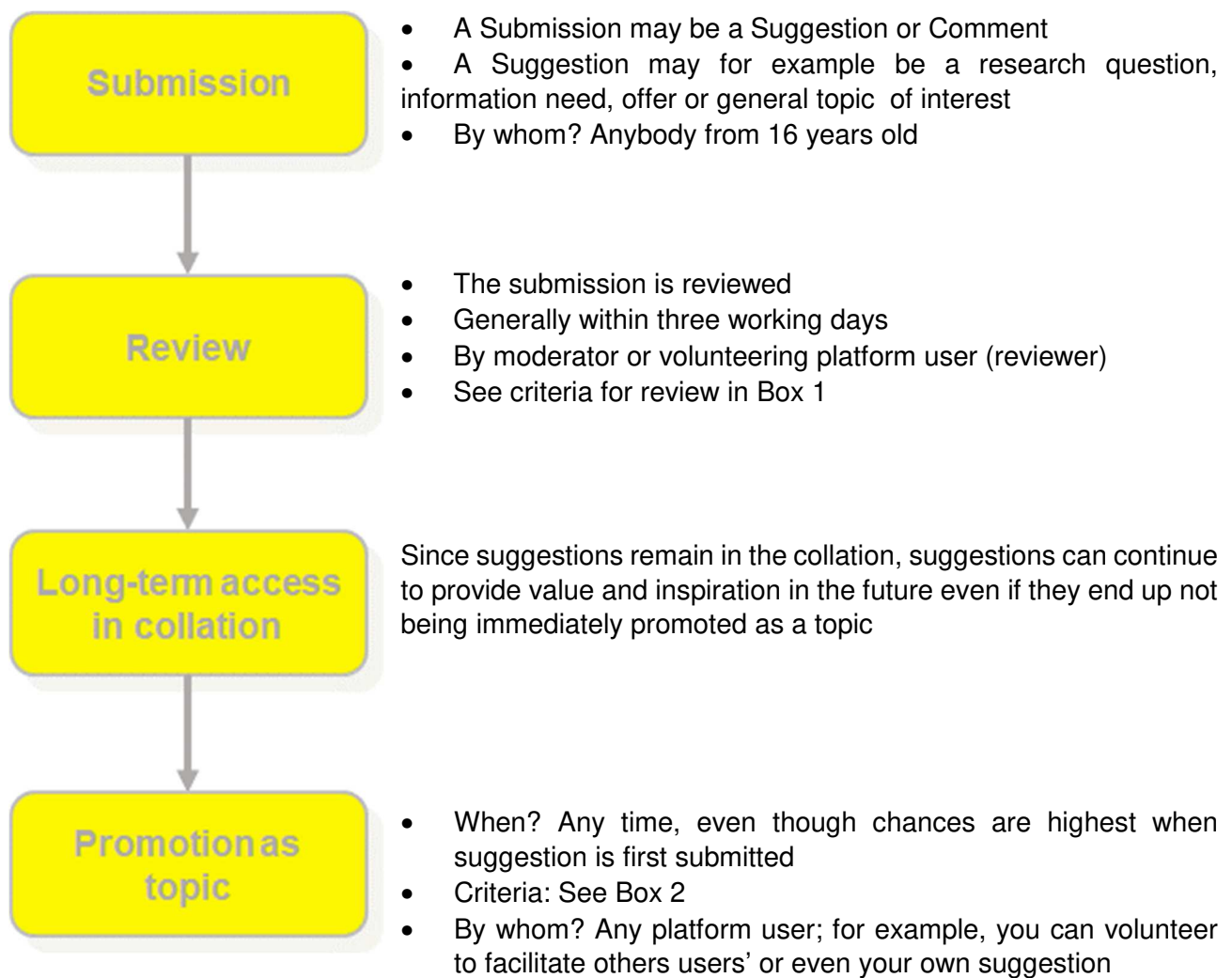


Figure 4. Overview of the process when submitting Suggestions

Box 1: Criteria considered during the review of suggestions

- The suggestion complies with basic rules, such as the Terms of Use⁵ as well as further rules (for example data privacy, intellectual property)
- The suggestion is clearly formulated (adjustments may be suggested)

⁵ <https://platform.joinus4health.eu/terms-of-use/>

Box 2: Criteria applied when deciding if a suggestion is promoted as a topic

Key criteria:

- a facilitator (this can also be the user submitting the suggestion) agrees to coordinate interactions and
- a moderator agrees to provide feedback and support and
- the facilitator and moderator agree on a (preliminary) plan for first interactions or a request for input to be posted as part of the topic

Additional criteria:

- suggestion has received high-level of interest (action buttons “like” and “contribute”) or
- the plan is perceived as particularly relevant for society or science based on feedback of moderators, JoinUs4Health partners, platform users (comments) and/ or advisory board members.

Teams

If enough contributors volunteer to make interactions worthwhile, one or more teams can be established to implement (parts of) the plan outlined in the topic. For each team, a facilitator and moderator need to be assigned.

Special offer: Three of the JoinUs4Health partners have been implementing population-based health research for up to three decades. Team members have the option to apply for cohort results to support their interactions. This is considered a key aspect distinguishing the JoinUs4Health from other collaboration platforms.

Tasks

The facilitator of the Topic or linked Teams can create tasks to gather additional input from the platform community. For example, a team could post a task asking for certain information or the summary of existing literature. The platform community may then address tasks. If specific input is needed, which cannot be sourced via the platform community, moderators may reach out to specific stakeholders, groups or networks to promote contributions via the platform.

In case of comments, questions or problems contact is possible via email (contact@joinus4health.eu).

4 Standard Operating Procedures

4.1 Purpose of activating youth to participate in the JoinUs4Health project

Activating young people to participate in the JoinUs4Health project is important and relevant for several reasons:

1. **Innovative potential and creativity of young people:** Young people have great potential in generating innovative ideas and approaches to health problems. Their fresh insights and creativity can lead to the discovery of new health solutions and methods and contribute to scientific progress.
2. **Satisfy their curiosity:** Young people may have questions and concerns about health that are not addressed in research, and they deserve a space to explore and co-create these questions. This is not just about providing them with education, skill development, etc. They have valuable knowledge to contribute, and JoinUs4health provides them with a platform and opportunities to collaborate to further explore this knowledge.
3. **Increase health awareness:** Active participation of young people in a health-related topic can help raise awareness about health, prevention and healthy lifestyles among other young people. By educating and involving them in health-related decision-making processes, youth can become ambassadors for healthy lifestyles in their communities.
4. **Strengthening social participation:** Active participation of young people in the project enables them to develop social skills such as cooperation, communication and leadership. By participating in the process of co-creating, learning and making decisions about the project, youth have the opportunity to experience and learn valuable skills that can influence their social involvement in the future.
5. **Empowerment and self-esteem:** Active participation in the project gives youth the opportunity to express their voice, ideas and opinions. This, in turn, builds their self-esteem and the belief that they are able to influence reality and participate in decision-making processes. As a result, youth become more confident and ready to engage in community initiatives.
6. **Follow-up and inheritance of knowledge:** Through active participation, youth have the opportunity to gain practical skills, knowledge and experience that they can continue to apply in the future. They can become future leaders and experts in health and science, passing on their knowledge and inspiring the next generation of young people.

4.2 Analysis and identification of the target group

In earlier communication documents, among others, in “D6.4 Communication and dissemination strategy”, the characteristics of the target groups of the JoinUs4Health project were drawn up. This document focusses specifically on high school students, to whom many of the events

during the project are directed. The importance of this sub-target group within the wider “Education community” has been confirmed in the events implemented so far, in which high school youth have stood out for their enthusiasm, commitment, openness and ingenuity. At the current stage of the project, this gives grounds for a strong hypothesis that this is one of the key groups for the continuity of the project after the end of the funding period, as the project's online platform provides a natural environment for today's youth to cooperate and exchange ideas. Young people quickly adopt and assimilate the platform environment and naturally use it for project implementation. If, in addition, we show teachers the usefulness of the platform in the process of educating young people, we could obtain a synergistic effect that can contribute to greater involvement of high school students in the process of co-creating science.

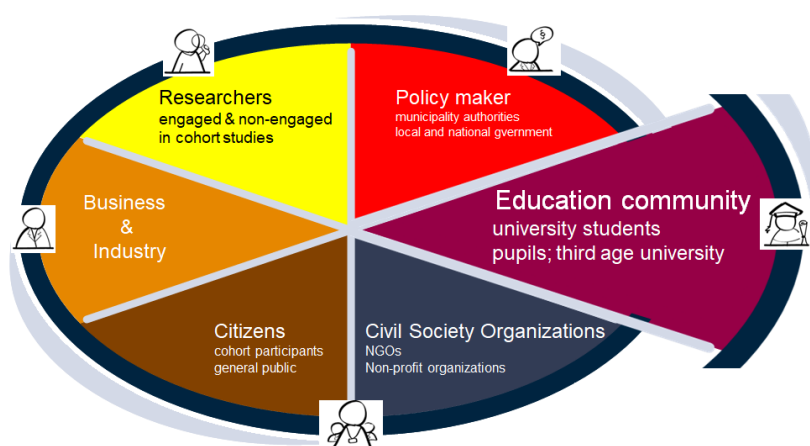


Figure 5. Education community as a key segment of the defined target groups

4.2.1 Research and analysis of youth needs

Due to the ongoing evaluation of events organized for high school students in Bialystok, we gained knowledge of what the main needs of high school students are related to health topics that could encourage them to develop them based on the JoinUs4Health platform.

Despite the fact that the JoinUs4Health project is implemented targeting different societal groups (e.g. citizens, scientists, policy makers; [Figure 5](#)), the modern world of youth, based largely on virtual space, including social media, is becoming unified and has no borders.

Young people are one of the most important and dynamic segments of society. Furthermore, supporting their health and physical and mental well-being is critical to their development and future success.

First, young people need access to sound health education. Many young people do not have sufficient knowledge about healthy lifestyles, proper nutrition, physical activity or proper hygiene habits. Schools should introduce subjects such as health, sex education and psychology into their curricula to provide young people with the necessary information and skills to make informed decisions about their health.

Another important need for young people is access to quality medical services. Young people should be able to receive free preventive examinations, vaccinations or advice from medical specialists. Many young people do not take advantage of such services due to lack of awareness or lack of financial resources. The government should invest in public health care systems that are accessible and affordable for young people. Moreover, adolescents when given the opportunity to take part in comprehensive examinations such as in cohort studies often do not take advantage of this opportunity because they do not know what cohort studies are.

Nowadays, youth often face mental health problems. Depression, anxiety, stress and low self-esteem are increasingly common. Therefore, it is important to provide psychological support to young people. Schools should devote more thematic space to issues related to the well-being of young people, their well-being and problems related to their mental condition and promote awareness in the community about mental problems⁶.

In addition, an important need for young people is the promotion of physical activity. Currently, many young people lead sedentary lifestyles, spending many hours in front of a computer screen or phone. Fostering awareness of healthy habits can change the unhealthy habits of young people in the near future.

It is important to keep in mind that the preferences of high school youth may vary depending on the social context, cultural background and individual preferences. However, we believe that the youth's demonstrated activity in specific topics with support from data obtained from the cohort study focus around five thematic blocks. The topics were selected by representatives of the consortium in Bialystok, after consultation with high school students and derived based on results from Bialystok Plus. These were⁷⁸:

1. mental health
2. sedentary lifestyles
3. diet and nutrition
4. physical activity
5. diseases of lifestyle, i.e. diabetes

⁶ [https://mlodeglowy.pl/wp-content/uploads/2023/04/MLODE-GLOWY.-Otwarcie-o-zdrowiu-psychicznym - Raport-final.pdf](https://mlodeglowy.pl/wp-content/uploads/2023/04/MLODE-GLOWY.-Otwarcie-o-zdrowiu-psychicznym-Raport-final.pdf)

⁷ <https://joinus4health.eu/wp-content/uploads/2023/06/Status-Report-Hackathon-for-Health.pdf>

⁸ <https://joinus4health.eu/hackathon-for-health-2023/>

4.2.2 Selection of the target group for activation

In promotional activities, where we are looking for willing students to participate in our events, we focus on a two-path strategy:

1. we send information to schools to notify them of the events being held
2. we organize campaigns on the Facebook profile of the JoinUs4Health project, where we target posts to high school students.

By using these approaches in parallel, we achieve the effect of well-informed high school principals and teachers, who further motivate students to participate, and awareness among high school students about interesting health-related activities that are conducted differently from standard school lessons. As a result, interested and cooperative young people, who participated in the meetings in a highly engaged manner and provided valuable feedback, attended the project's events.

What's more, each event organized for high school students, in addition to its educational value in health topics, also has one universal goal: to promote the JoinUs4Health online platform, explain its principles, and direct the activities of young people to implement their future ideas using this project tool. To achieve this universal goal, we use the communication and dissemination strategy developed in advance.

4.3 Indications of 'communication and dissemination strategy' in reaching high school students

The indications developed in the earlier strategy documents, i.e. 'Deliverable 6.4 Communication and dissemination strategy', regarding the engagement and activation of pupils, make it possible to describe in detail the activities aimed at selecting effective communication channels, creating attractive content and planning promotional activities. These will be described below.

4.3.1 Choosing the right communication channels for youth

As part of the project, we defined six major target groups. However, it should be borne in mind that this is not an exhaustive division and there may be smaller fractions within the segments. For example in case of the education community, we extracted the sub-community high school students. As part of an internal workshop based on the "Brand Spirit" methodology, personas were conceptualized. Next, online marketing communication tools and various ways to activate personas were selected. Additionally, the events that could serve this purpose were indicated ([Table 1](#)). A detailed description of the profiles is included in M6.1. "Joint concept of communication and dissemination strategies developed for the citizen science board".

Table 1. A synthetic list of personas along with an indication of their online activity, activation methods and events within the segment “education community” (source: Deliverable 6.4 ‘Communication and dissemination strategy’)

NAME OF PERSONA	PROFILE	REASONS OF ENGAGEMENT	ACTIVITIES FOR BUILDING AWARENESS:	WAYS OF ACTIVATION – UNIQUE SELLING PROPOSITION (UPS)
TEACHER / EDUCATOR	Primary and High school teachers	<ul style="list-style-type: none"> • possibility to diversify lessons through the use of modern and interactive materials based on data and reports from the project platform including the possibility to utilize cohort results • facilitate teaching activities through the availability of ready-made lesson scripts on health and related topics • possibility to conduct a research project together with students as part of a course conducted with them • showing the advantages of RRI that they could instil in students • showing the advantages of the platform, thanks to which they could carry out activities with students 	<p>Online:</p> <ul style="list-style-type: none"> • social media, especially Facebook, YouTube • Google, • educational portals devoted to science • educational portals for teachers • email • sending information to schools and requesting them to be posted on their websites <p>Offline:</p> <ul style="list-style-type: none"> • activities piloted in Bialystok (quadruple helix workshops, Science and Health Festival, competitions for secondary schools) • seminars to introduce the platform • JoinUs4Health conferences • events related to the platform 	<ul style="list-style-type: none"> • ready-made lesson plans for health issues based on data from cohort studies • webinars for teachers • USP: platform as an easy and attractive space and tool to make lessons more attractive and easier to prepare.
COLLEGE AND HIGH SCHOOL STUDENT	High school students and students interested in aspects of medicine and health	<ul style="list-style-type: none"> • possibility to prepare for project work by jointly conducting a research project with a scientific supervisor • expanding knowledge in a selected area • the opportunity to see teaching materials developed by the University of Rotterdam 	<p>Online:</p> <ul style="list-style-type: none"> • social media: especially Facebook, Instagram, YouTube, Tik-Tok • Google, • email • school / university intranet • websites of universities and departments, high schools <p>Offline:</p> <ul style="list-style-type: none"> • Citizen Science Boards • activities piloted in Bialystok (Science and Health Festival, competition for high-school pupils) • Events related to the platform 	<ul style="list-style-type: none"> • building awareness of the project and platform across all online and offline channels • user-friendly data analysis • webinars • newsletter • USP: platform as a space of ideas for research, play and fun.

4.3.2 Creating attractive and engaging communication content

Attractive and engaging communication content for young people usually has several common features that can capture their attention and engage them in the long term. Here are some elements that can be the key to attractive communications for youth:

1. **Interactivity:** Based on our experience young people prefer interactive forms of communication that engage them actively, rather than just providing them with information. This can include quizzes, games, contests, polls or interactive apps that allow youth to participate and interact with the content.
→ Hence, we use the interactive forms of contact, i.e., social networks, as redefined in [Table 1](#), to communicate with young people.
2. **Visual Aesthetics:** the visual aspect of communications is important to youth. Eye-catching graphics, attractive page layouts, interesting photos or animations can make content more attractive and easier to digest.
→ Our visual communication corresponds to the overall image of the project focused on fun and merriment in providing reliable and timely health information. This is supervised by communication and visual graphics specialists at WhiteBits, one of the JoinUs4Health partners and an established marketing company in Białystok. Below is an example from a Facebook event promoting a workshop as part of the Białystok Science and Arts Festival and Health Festival coordinated by SocLab.



Figure 6. The inscription "Young mind - mental health of young people a challenge of our time" (May 17, 6:00-8:00 pm; Center for Innovative Research)

3. **Relevance:** communication should be about topics that are important and interesting to young people. If the topics are related to their daily lives, passions, problems or social issues, they will be more likely to engage with the content and remember the message.
→ Therefore, in our visual communications and posts, we use information on topics that young people have defined as relevant to them. The following post on Facebook redirected young people to the JoinUs4Health platform and encouraged

them to submit suggestions for an offline event organized by the Białystok City Youth Council in cooperation with the SocLab Foundation.



Figure 7. The inscription “YOUTH TO YOUTH. Post your topic for a meeting about mental health”

4. **Authenticity:** young people value authentic content that reflects their reality and emotions. When communicating, it is a good idea to avoid over-idealization or artificiality, and instead focus on the real experiences, stories and perspectives of young people.

➔ To do this, we relied on cohort data from the cities where the youth come from, making it timely, authentic and "neighborhood-based." One example is a Facebook campaign also targeting young people based on data from the Białystok Plus survey on sedentary lifestyles. The post redirected when clicked to the JoinUs4Health project website, where the report was available for download in pdf form.

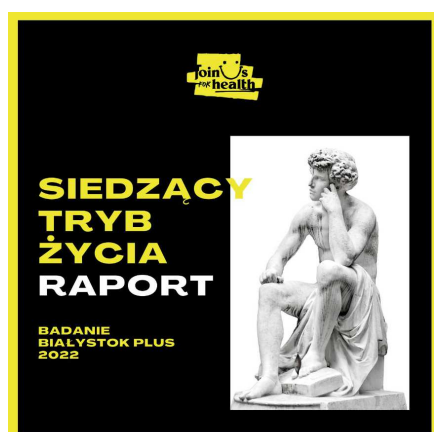


Figure 8. "SEDENTARY LIFESTYLE REPORT. BIALYSTOK PLUS STUDY 2022"⁹

⁹ link to the report:

https://platform.joinus4health.eu/uploads/Siedzacy_tryb_zycia_raport_JU4H.pdf?fbclid=IwAR2XetWDlq_9ISqVJRPw0RYf3E-8Ua4KXrKkHS8x0tmpPLpYLOIx3bAgGU

5. **Multimedia:** young people are accustomed to using a variety of media, such as videos, music and podcasts. Using a variety of formats and media in communications can attract attention and add variety to the content.

➔ With this in mind, we are creating contents to appeal to the tastes and expectations of young people, including a video promoting the project and the platform (https://www.youtube.com/watch?v=wwYmGVL2dZg&ab_channel=BioFilm%7CucasTreise) and an events page using a visual layer and fonts that appeal to young people. We also plan to create podcasts on topics that are attractive to youth and realized by youth themselves.



Figure 9. Screen shot from the promotional movie

6. **Language and tone:** Young people generally prefer language and tone of communication that is simple, concise and accessible. Overly formal or scholarly language can make content more difficult to digest and less appealing.

➔ Therefore, we organized names and gadgets for the meetings, which are close to the youth. We also invited representatives of their generation to tell them about science and the platform in a way that is understandable and encouraging to them, as opposed to the formal scientific language found in scientific journals... One of the mentors at the “Hackathon for Health” was Petros Psyllos. He was named one of the top 30 European innovators under 30 by the US edition of Forbes (Forbes 30 Under 30, 2017) and by the Massachusetts Institute of Technology Review as one of the top 10 brightest young inventors in Poland (2016). He is the winner of the New Europe 100 - a list of influential innovators in Central and Eastern Europe according to Res Publica, the Visegrad Fund, Google and the Financial Times (2017).

7. **Community and interaction with peers:** Young people often derive satisfaction from participating in communities and interacting with their peers. Communication that provides opportunities to share opinions, comments and discussions or allow participation in focus groups can encourage youth to engage and co-create content.

- ➔ Hence, at many meetings, young people interact with each other by trying to focus in teams on a health issue of interest to them (see “Hackathon for Health” <https://hackathondlazdrowia.pl/>)



Figure 10. Inscription: “Participate in the Hackathon for Health and create with us a social campaign about youth and for youth!”

4.3.3 Planning promotional and advertising activities

The WhiteBits agency, which organizes social media campaigns, promotes events with the participation of high school students, and prepares the visual layer, is responsible for planning promotional and advertising activities.

The promotional support is aimed at reaching the JoinUs4Health project's sub-target group of high school students, thus increasing awareness of the project, and encouraging young people to take action, which is to visit the JoinUs4Health project's online platform.

Many events dedicated to and carried out with the participation of high school students are coordinated by SocLab, a non-governmental organization and JoinUs4Health partner. At the conceptualization stage of the project, many activities in Białystok were planned offline, which is not so obvious from the current perspective. When the JoinUs4Health project had its start, the COVID-19 pandemic prevailed, and it was not at all clear whether it would be possible to meet with any stakeholders other than online.

4.4 Organization of meetings and workshops

Over the course of the project, many meetings and workshops dedicated to high school students have been planned. Some of them have already taken place, and some will still be carried out, with the greatest intensity in the last six months of the project.

4.4.1 Planning the schedule of events and workshops

This section will present the schedule of meetings and workshops with high school students, taking into account the updated dates based on the scheme adopted in "D6.1 Events"

The rescheduling of events, in addition to minor ones, was influenced by two key factors: the pandemic and the need to postpone offline meetings, and the delay in the launch of the user version of the JoinUs4Health online platform.

Table 2. Events to familiarize young people with the platform and engage them to use it conducted in Bialystok, Poland in 2023

Time	Event title
April	Competition for schools - The event took the form of a one-day 'Hackathon for Health' in which 6 teams from different schools participated. The task was to develop a public health campaign on one of five proposed topics based on data from the Bialystok PLUS cohort study.
May	Science and Health festival - The event was held as part of the citywide Science and Arts Festival, where a series of health themed events were held. Those aimed at high school students were: Science Picnic - where we encouraged visitors to ask questions of scientists from the Medical University through the JoinUs4Health platform; a workshop titled "The Science Picnic. "The Young Mind - Youth Mental Health as a Challenge of our Time"; the workshop "What's going on in my head? How to take care of mental health?"
June	Hiring an educator to conceptualize 5 lesson scenarios on health based on data from the cohort study and JoinUs4Health methodology like RRI and crowdsourcing
July	Hiring an Educator to conceptualize podcasts to be developed with youth to engage them in the process of co-creating learning. The recorded podcasts will then feed into a repository on the platform and, together with the scenarios, can be used by teachers to help and inspire lessons in other schools. The activity will be supported by a social media campaign.
September-October	Implementation of 20 lessons in selected secondary schools based on the created scenarios and online training for teachers on how to conduct such a lesson and how to operate the repository and the JoinUs4Health platform
September-December	Educator's realization of podcasts together with high school students.
September	Quadruple helix workshop Bialystok : As part of the JoinUs4Health conference 2023: Bialystok PLUS, Quadruple helix workshop will be organized, which will introduce city officials to the social campaign developed by the winning team of 'Hackathon for Health'
December	Quadruple helix workshop: Bialystok PLUS 2: Meeting of stakeholders, including high school students to summarize the results of the JoinUs4Health project.

4.4.2 Selection of suitable sites and facilities

Venues suitable for activities involving high school students are important from the participants' point of view. Because some of the high school students may soon feed into the academic community, the universities involved in the project are using their potential consisting of modern facilities, laboratories and seminar rooms to inspire and encourage young people to cooperate with scientists.

4.4.3 Preparation of educational materials and tools

One of the tasks carried out in the JoinUs4Health consortium will develop five lesson plans for high schools in workshop format thematically related to the JoinUs4Health project. Proposed topics include:

- citizen science,
- responsible research & innovation (RRI),
- cohort research, and
- health science.

The scenarios will be posted on the platform's repository page. Subsequently, 20 workshop lessons will be held in secondary schools in Białystok based on the created scenarios. There will also be training for teachers based on the created scenarios on how to implement a workshop lesson with high school students.

4.5 Youth participation and involvement

4.5.1 Creating a space for youth to express opinions and ideas

During the course of the project, several meetings were held for numerous groups of stakeholders (youth, community members, representatives of NGO's, administration, scientists) to present the concept and the JoinUs4Health platform (see D6.1 Events). Based on our experience, the greatest involvement was coming from the youth. Therefore, the idea emerged to use this opportunity to create conditions for youth to express their opinions and ideas on health, but within the framework of a well-prepared methodology and in cooperation with scientists.

Considering how big a role influencers and YouTubers play in today's pop culture, we decided to give young people a chance to step into the role of the 'stars' of their generation. Taking advantage of their desire to create content that will then be viewed and shared by their peers, we intend to work with them to produce a series of podcasts on health topics in collaboration with scientists. The idea of preparing a podcast will result in young people realizing their desire to create compelling content. They will have to prepare for the topic, which they have taken on, by developing a script, preparing the interview, inviting a guest, and

engaging in the technical tasks of the episode: e.g. editing, processing, etc. Everything will be implemented in the form of workshops, which will be conducted by an experienced Educator.

The realization of podcasts by young people on the topic of health can bring many benefits to both the young creators themselves and the listeners. Here are some of the benefits associated with the implementation of podcasts on health by young people:

1. **Education:** Creating podcasts about health requires in-depth research and exploration of the topic. The process of preparing podcast episodes engages young people in searching for reliable information, developing research skills and gaining knowledge about various aspects of health. Young creators can also learn about healthy habits and pass this knowledge on to listeners.
2. **Health Awareness:** Creating health podcasts enables young people to deepen their awareness of various aspects of health, such as healthy eating, physical activity, mental health, sexual health, etc. Working on health content can help increase youth's awareness of healthy lifestyles and encourage informed choices.
3. **Sharing knowledge and perspectives:** Podcasts offer a platform for sharing knowledge, experiences and perspectives. Young people can invite experts, professionals, but also other young people to share their stories, advice or thoughts on health. Such interactions can provide valuable information and inspiration for both creators and listeners.
4. **Creativity and self-expression:** Creating podcasts allows young people to express their creativity and apply creative approaches to health topics. They can experiment with different formats, interview styles, sounds and music. Making podcasts can help young people develop skills in communication, public speaking, interviewing and teamwork.
5. **Inspiration and influence on others:** Podcasts created by young people can be inspiring and motivating to other peers. Young listeners can identify with podcast creators, feel inspired by their success stories or the positive changes they are making in their lives.

4.5.2 Involve young people in project decisions

Involving youth in project decision-making has important benefits. One way to accomplish joint decision-making is to involve young people in Quadruple Helix Workshops, which will be held in Białystok in September and December 2023. Here are some reasons why we consider it important to engage youth in joint decision-making:

Participation and Involvement: We hypothesize that when young people have the opportunity to participate in the decision-making process, they feel more involved and

responsible. Allowing young people to participate in projects makes their voices being heard and taken into account, thus strengthening democratic governance. This, in turn, it motivates them to actively participate and engage in the project, resulting in greater involvement and better results.

Diversity of perspectives: Youth have their own unique perspectives and experiences that can bring a fresh perspective on issues and challenges. Including youth in the decision-making process allows their diverse perspectives to be taken into account, which can lead to better solutions and innovative ideas.

Skill development: Decision-making requires the development of certain skills, such as critical thinking, negotiation, communication and problem solving. Involving young people in the process gives them the opportunity to learn and develop these skills in practice. Young people can gain experience in making responsible decisions, analyzing information and arguing, which will be useful in the future.

Better adaptation to the needs of young people: Young people know best what their own needs, problems and expectations are. By including them in decision-making, the project can better adapt to these needs and respond more effectively to the challenges youth face. By involving youth directly in decision-making, the project can be more focused on solving real problems that matter to youth.

Strengthening self-esteem and self-reliance: Involving youth in decision-making gives them a chance to express their opinions, choices and autonomy. This, in turn, boosts their self-esteem, confidence and sense of control over their lives. Young people learn that they can have an impact on the world around them and can make a meaningful contribution to a project, their peers and their local society.

4.6 Rewarding and recognizing commitment

Rewards provide a strong motivational incentive for youth. Receiving recognition for one's involvement, effort and achievements in a project adds motivation for further participation and active involvement. Rewards can be a factor in motivating youth to put forth effort and strive for better results. It gives them a sense of value and confirmation that their efforts are not in vain. It boosts their self-esteem and builds positive self-esteem, which is crucial for their development and healthy well-being. Rewards can also be a tool to build connection and engagement of youth in the project. These activities create positive experiences and relationships between youth and project organizers. Young people feel more connected to the project when they receive rewards, which can lead to long-term commitment and continued participation in future phases of the project.

Rewards can also be linked to promoting and rewarding healthy lifestyles such as rewards linked with physical activity, healthy eating, stress management skills or healthy lifestyles in general. These types of rewards support positive health behaviors and can inspire young people to make healthy choices.

Rewarding youth for their involvement in a health-related project can help increase the project's trust and credibility in the eyes of young people. When youth see that their efforts are recognized and rewarded, they have more confidence in the project and are more likely to participate and recommend it to others.

4.6.1 Honoring the achievements of young people in the project

Rewarding youth for participating in JoinUs4Health project's events can be motivating and encouraging. Here are some ways in which youth can be rewarded:

Certificates and diplomas: After completing participation in events or achieving certain goals, certificates or diplomas can be awarded to youth to acknowledge their involvement and contributions. This symbolic award can give them recognition and motivate them to continue participating. Contestants in the 'Hackathon for Health' received such symbolic rewards for taking part in the event.

Stamps and badges: Awarding youth with special stamps or badges for participation in events can be an attractive way to recognize their efforts and involvement. Stamps can come in a variety of shapes, colors or symbols related to the health theme, making them even more valuable to youth.

Gifts and material rewards: Youth can be rewarded with gifts or material rewards for their involvement in events. These can be health-related books, gadgets promoting healthy lifestyles, sports equipment or vouchers for sports or cultural activities. Providing such prizes can be an additional incentive for young people to participate and actively engage in the project.

Public recognition of achievements: It is important to publicly recognize youth involvement and thank them for participating in events. This can be done through announcements, website postings, videos or presentations at meetings or gatherings. These activities help youth feel appreciated and motivate them to continue participating. The winners of the 'Hackathon for Health' will implement a social campaign and speak at a conference on the project's theme organized by the Medical University of Bialystok in September 2023, and will additionally participate in the Quadruple Helix Workshop where they will present their idea to the Mayor of the City.

4.7 Monitoring, evaluation and improvement

All activities implemented for and with young people are subject to continuous evaluation. So far, implemented events such as the Hackathon for Health and workshops held as part of the Health Festival have been subjected to evaluation by participants in the form of an electronic questionnaire completed after the event. The data from the surveys will be used to create the final evaluation report, which will include recommendations and indications on how to implement even better, more relevant and more effective project procedures in the future.