

Evaluating a training programme: European Health Information Training Programme - EHITP



Health Intervention's Evaluation – *from concept
to practice*



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SAÚDE



SNS SERVIÇO NACIONAL DE SAÚDE



Background

- InfAct JA: Information for Action
- 10 work packages;
- It included 40 partners from 28 countries;
- The project was launched in March 2018 with a duration of 36 months;
- Funded by the European Union's Health Programme (2014-2020);





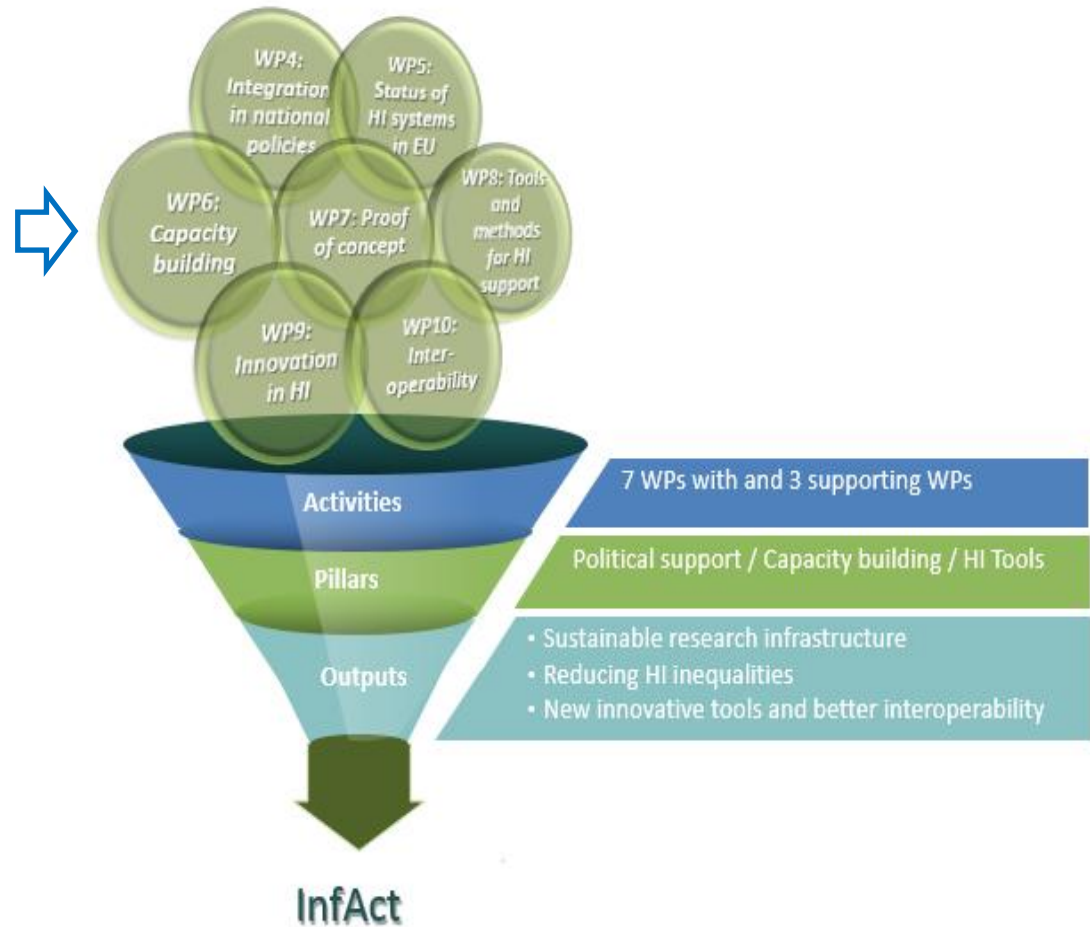
Aimed to improve the use of health data and information for a healthier Europe.

Its **main goal** was to build an infrastructure of a health information system for a stronger Europe.



Led by Portugal (DGS, IHMT, INSA)
Co-led by THL - Finland

WP6 - Strengthening EU countries health information capacity.





InfAct Joint Action

To develop a roadmap for training in health information with the objective to tackle health information inequality through Europe.



InfAct Joint Action

- **Task 6.1** – Mapping needs, capacities and education/training programmes in HI in MS.
- **Task 6.2**– Design of a *Flagship Capacity Building Programme* to improve MS capacities in population health and health system performance and monitoring.
- **Task 6.3**– Piloting and evaluating of the *European Health Information Training Programme (EHITP)* proposal
- **Task 6.4** – Roadmap for the Capacity Building Programme in Health Information

Health Information (HI)

HI includes indicator development, data collection, data analysis and inference, data management and translational research for developing new policies;



Health Information (HI) needs

“Mapping needs, capacities and education/training programmes in HI in MS”:

- HI programmes were organised in a vertical way:
 - fragmented and project-based;
 - comparability between and within MS was difficult.
- HI is trained through various courses or modules in information systems or as part of epidemiology/public health programs. However, most courses are specialized, focusing on only one or a few topics.
- Availability of HI and possibilities to use it for evidence₈-informed policy making varies between EU member states.



Health Information (HI) needs

The mapping pointed that when establishing a sustainable flagship training programme, at least the following topic areas should be considered:

- data analysis and interpretation (interoperability of data sources, derivation of European Core Health Indicators (ECHI) and foresight/scenario analysis);
- transfer from data to policy (policy translation and data presentation);
- data collection, sources, metrics and indicators and
- data privacy and ethical issues (how to deal with requirements of the “General Data Protection Regulation” (GDPR)).



Evaluation Object

- The proposal of the *European Health Information Training Programme* (EHITP):
 - Including:
 - proposal
 - pilot test:
 - 35h teaching course, named “*1st European School on Health Information*”.

Evaluation Theoretical Model

An evaluation process based on the **integration**:

1. Evaluation framework of the World Health Organization (WHO)¹ and
2. Centers for Disease and Control (CDC) framework for Programmes Evaluation in Public Health² was used.

¹ World Health Organization (WHO). WHO Evaluation Practice Handbook. 2013 [accessed in 2019]. Available from: <https://apps.who.int/iris/handle/10665/96311>

² U.S. Department of Health and Human Services. Centers for Disease Control and Prevention (CDC). Framework for program evaluation in public health. MMWR. 1999 September;48(RR- 11):1-40.



Evaluation Theoretical Model

The **WHO** proposes a 4 phase evaluative approach:

1. Planning;
2. Conducting the evaluation;
3. Reporting;
4. Utilization and follow-up of evaluation results.



Evaluation Theoretical Model

The **CDC framework** states that the evaluation process of an intervention in public health comprises 6 fundamental steps:

1. Engage stakeholders;
2. Describe the programme;
3. Focus the evaluation design;
4. Gather credible evidence;
5. Justify conclusions;
6. Ensure use and share lessons learned.



Evaluation Theoretical Model

The integration took place in 6 operative steps, according to the CDC framework, distributed by the 4 phases recommended by WHO:

Phase 1: steps 1, 2 and 3;

Phase 2: steps 4 and 5;

Phase 3: reporting of results and recommendations from step 6 of the CDC framework;

Phase 4: incorporation of evaluation recommendations into a new version of the *European Health Information Training Programme*.



Evaluation Theoretical Model

Quality criteria (based in the Four Standards for Social Policy Assessments³):

- **Utility:** useful and meets the needs of stakeholders;
- **Feasibility:** practicality, considering time, resources, and constraints;
- **Propriety:** ethical conduct, fairness, and compliance with regulations;
- **Accuracy:** is reliable, valid, and based on sound evidence.

³ U.S. Department of Health and Human Services. Centers for Disease Control and Prevention. Office of the Director, Office of Strategy and Innovation. Introduction to Program Evaluation for Public Health Programs: A self-study guide. Atlanta, Georgia: CDC; 2011.



Evaluation Theoretical Model

So, the evaluation of the EHIPT comprised 4 integrated phases:

- (1) engagement of stakeholders, description of the programme, and focusing the evaluation design;
- (2) gathering sound evidence and justify conclusions;
- (3) reporting of results and recommendations; and
- (4) incorporation of evaluation recommendations into a new version of the *European Health Information Training Programme*.

Evaluability Assessment

Engagement of stakeholders, description of the programme, and focusing the evaluation design:

An **Evaluability Assessment** (pre-evaluation)* was conducted based on the principles and methods of the theory of change (13).

- describe the target of the evaluation through a logical model built with the participation of key stakeholders
- to define the focus of the evaluation.

The **logical model** was built based on: a literature review + contributions of a workshop meeting with the main stakeholders

The EHIPT proposal was still under development, so the evaluability assessment served as a **pre-evaluative procedure, allowing an early and structured involvement of both the evaluation team and key stakeholders, in order to discuss and jointly decide the evaluation development*

European Health Policies

European context²

National Context¹

Inputs

- Formative needs and capacities
- Documentation that presents the programme
- Results and recommendations of the evaluation of previous editions

Activities

- Participant selection
- Training activities/pedagogical project
- Participants' evaluation of the training

Outputs

- Students that fulfilled all stages of the training
- Health information glossary
- Reports and assignments
- Guidelines for action

Outcomes

- Positive feedback from participants
- Learning and capacity building
- Alignment of criteria and procedures between EU Member States

Impact

- Harmonization of criteria for the collection and dissemination of health information among EU Member States
- Improvement of the quality of health information
- Greater equity in health information in Europe
- Definition / orientation of policies for health promotion, and disease prevention and control
- Improvement of health status
- Strategies that support the programme's sustainability

Identifying lessons for applying in a Health Information Capacity Building roadmap in Europe

Evaluation Theoretical Model

So, the evaluation of the EHIPT comprised 4 integrated phases:

- (1) engagement of stakeholders, description of the programme, and focusing the evaluation design;
- (2) gathering sound evidence and justify conclusions;
- (3) reporting of results and recommendations; and
- (4) incorporation of evaluation recommendations into a new version of the *European Health Information Training Programme*.



Gathering sound evidence and justify conclusions;

Given the training nature of the evaluation object the Kirkpatrick's Four-Level Training Evaluation Model⁴ (reaction, learning, behaviour and results) was also considered.

Thus, the evaluation framework of the EHITP proposal integrated the following components:

1. formative needs and capacities;
2. participant selection process;
3. pedagogical project;
4. training (following the first three levels of the Kirkpatrick's Four-Level Training Evaluation Model) and
5. alignment between EU Member States.

³ Kirkpatrick DL. Evaluating Training Programmes: The Four Levels. San Francisco: Berrett-Koehler; 1994.

Evaluation objectives

[Considering not only the results of the evaluability assessment, but also the protocol of the InfAct Joint Action]

1. To evaluate the adequacy of the EHITP to the HI needs in the European MS;
2. To identify possible changes to the EHITP, regarding to:
 - 2.1. The selection process of the trainees as professionals who can act as agents of change, including modifications in the preparation and availability of documentation presenting the programme prior to its implementation;
 - 2.2. The training activities and the pedagogical project;

Evaluation objectives

3. **To contribute to the identification of potential main EHITP outputs through the analysis of the trainees' attendance during the *1st European School on Health Information* (the pilot test of the EHITP);**
4. **To contribute to the understanding of the potential satisfaction of the EHITP participants through the satisfaction analysis expressed by the trainees and the lecturers at the *1st European School on Health Information*;**
5. **To contribute to the understanding of the potential of the EHITP to learning, capacity building and behavioural changes at work through the perceptions of the participants in the *1st European School on Health Information*;**

Evaluation objectives

6. To contribute to the understanding of the potential of the EHITP to the alignment of HI criteria and procedures between EU Member States through the perceptions of the EHITP authors and of the participants in the *1st European School on Health Information*;

7. To identify successful and unsuccessful areas or issues in the EHITP proposal and the *1st European School on Health Information* that can help EHITP future improvement or adequacy.

Methods

The evaluation was performed through an observational descriptive study using a mixed methodological approach with both document analysis and primary data collected by questionnaires and analysis of semi-structured interviews.

- Data collected from the answers to closed questions of the questionnaires were analysed using frequencies distribution;
- Open questions of the questionnaires, interviews and from document analysis were subjected to thematic analysis;

Study population

Study population were the trainees, the lecturers of the pilot course, InfAct Coordinators, Coordinators and members of WP6 and other co-authors of the EHITP.



Material, sources and data collection techniques

According to the objectives of the study, data was collected through three techniques:

1. Document analysis (secondary data) based on the material made available by the coordinators of the EHITP:

- Program of the pilot course;
- Documentation concerning the pilot course (application forms; pilot course announcements; booklet of the course; satisfaction surveys and other course evaluation forms)



Material, sources and data collection techniques

2. Questionnaire for trainees and for lectures of the pilot course :

- Anonymized questionnaire;
- closed and open questions;
- pre-tested by health professionals and university professors;

3. Semi-structured interviews with the coordinators and authors of the EHITP.

- script specifically built for the purpose, based on the evaluation study measurement matrix.
- to identify the perceptions of the coordinators and authors of the programme regarding the component “alignment between EU Member States” of the measurement matrix.
- The collected data were transcribed manually.



Measurement and analysis plan

- Data was collected according to the components of a **measurement matrix** specifically designed for the evaluative study.
- For each component of the evaluation framework the measurement matrix presents a **series of indicators and criteria**, with the aim of converting the expected concepts and effects **into specific and measurable sections**;
- A matrix of analysis categories was built from the measurement matrix to help data analysis.



Measurement Matrix

Components / Questions	Criteria / Indicators
1. Formative needs and capacities <ul style="list-style-type: none"> Is the training programme aligned with the results of the formative needs and capacities mapping produced in WP6 Task 6.1? 	a) Alignment of the theme, objectives curriculum content of the course with the results of the needs mapping (cross check with the mapping from WP6 Task 6.1).
2. Participant selection process <ul style="list-style-type: none"> What was the need for training or motivation for applying for the pilot test? What changes must be made in the process to encourage the application of professionals who can act as agents of change? What components of the course were determinant for the application of the professionals? 	a) Needs/problems or expectations of the candidates expressed in the candidature b) Alignment of the candidate's motivation and the theme and objectives of the course c) Clarity of the documentation that presents the programme, concerning: <ul style="list-style-type: none"> target audience, admission criteria, pedagogical training objectives, curriculum content, training organizational structure, teaching methods and techniques, evaluation methods.
3. Pedagogical project <ul style="list-style-type: none"> Is the proposal of the programme in line with the training activities and pedagogical project according with the WP6 protocol, the results of the evaluability assessment and the expectations of the trainees? What changes must be made in the training activities or pedagogical project to encourage the alignment with the expectations of the trainees and recommendations of lecturers? 	a) Alignment of the pedagogical project with the training activities and pedagogical project defined in the WP6 protocol, selected in the evaluability assessment and expressed by the trainees (by their expectations and, or the evaluation of the pilot course) b) Recommendations expressed by the lecturers and trainees.
4. Formation	
4.1 Reaction <ul style="list-style-type: none"> What was the reaction of the trainees in the pilot test to the experience? 	Reaction: <ul style="list-style-type: none"> a) Attendance of the trainees of the pilot test (EA criteria) (% students that fulfilled all stages of the training) b) Works and documents produced during the pilot test (EA criteria) (% students that participated/completed group works, final essay) c) Achievement of the learning objectives expressed by the trainees d) Satisfaction expressed by the trainees [descriptive stats by session form from the organization & descriptive stats and content analysis from the trainees questionnaire]: <ul style="list-style-type: none"> Evaluation of the pilot course (evaluation course indicators); Recommendation of the training programme; Difficulties felt and expressed by the trainees.
4.2 Learning <ul style="list-style-type: none"> What was the perception of the participants in the pilot test about the potential of the programme learning and capacity building? 	Learning: <ul style="list-style-type: none"> a) HI knowledge learned and skills developed or strengthened expressed by the participants in the pilot test (trainees and lecturers) as results of the course (EA criteria) b) Examples of HI knowledge learned and skills developed or strengthened felt and expressed by the trainees as results of the course c) Suggestions made by the trainees for the improvement of the training programme leading to the reinforcement of the potential of technical updating and capacity building as results of the programme.
4.3 Behaviour <ul style="list-style-type: none"> What was the perception of the participants in the pilot test about the potential of the programme in positive behavioural changes at work? 	Behaviour: <ul style="list-style-type: none"> a) Behaviours that are expected to be reflected in the trainee's job performance after training expressed by the trainees in the pilot test (EA criteria) b) Suggestions for the improvement of the training programme leading to the reinforcement of the potential of positive behavioural changes as result of the programme.
5. Alignment between EU Member States <ul style="list-style-type: none"> What was the perception of the authors of the training programme and the participants in the pilot test about the potential of the programme to the alignment of HI criteria and procedures between EU Member States? 	a) Potential of the programme for the alignment of HI criteria and procedures between EU Member States expressed by the authors of the training programme and the participants in the pilot test (EA criteria) b) Suggestions for the improvement of the training programme leading to the alignment of HI criteria and procedures between EU Member States as outcome of the programme.



Measurement and analysis plan

- Data was collected according to the components of a measurement matrix specifically designed for the evaluative study.
- For each component of the evaluation framework the measurement matrix presents a series of indicators and criteria, with the aim of converting the expected concepts and effects into specific and measurable sections;
- **A matrix of analysis categories was built from the measurement matrix to help data analysis.**

Matrix of analysis

Categories	Subcategories 1	Documental analysis	Questionnaire - trainees	Questionnaire - lecturers	Interviews
1. Formative needs and capacities	Alignment of the EHITP with the results of the formative needs and capacities mapping produced in WP6 task 6.1	X	...	...	X
2. Participant selection process	Participant selection process of the <i>1st European School on Health Information</i>	X	X	X	X
	Needs/problems or expectations of the candidates expressed in the candidature	...	X	X	...
	Alignment of the candidate's motivation and the theme and objectives of the course	X	X	...	X
	Clarity of the documentation that presents the programme	X	X	...	...
3. Pedagogical project	Alignment of the pedagogical project	X	...	...	X
	Recommendations and suggestions about the pedagogical project made by trainees and lecturers	...	X	X	X
4. Formation	Reaction	X	...	...	...
	Learning	...	X	X	...
	Behaviour	...	X	...	...
	Global appreciation of the formation	...	X	X	...
5. Alignment between EU Member States	Potential of the programme for the alignment of HI criteria and procedures between EU Member States	X	X	X	X



EHITP Evaluation Plan

Evaluation object

European Health Information Training Programme proposal (EHITP)

Evaluability study

- Engage stakeholders
- Describe the programme

Logic Model

Recommendations for the EHITP

Evaluation objectives

Evaluation questions

Gather credible evidence and justify conclusions

Kirkpatrick's Four-Level Training Evaluation Model (reaction, learning, behaviour and results)

EHITP Programme	1 st European School on Health Information				Stakeholders
	Sessions	Pilot course materials (reports etc)	Trainees	Lecturers	
Documental analysis	Observers	Documental analysis	Questionnaire	Questionnaire	Semi-structured interviews via teams combined with the use of electronic email (International stakeholders)

Reporting and Recommendations

Communication, utilization and follow-up of evaluation results

Results and discussion

1. Participants
2. Results by evaluation framework components
 1. Formative needs and capacities
 2. Participant selection process
 3. Pedagogical process
 4. Training
 5. Alignment between EU Member States



Participants

- Of the 23 **trainees**, 14 (60.9 %) participated. Regarding the **lecturers**, 16 were invited to answer the questionnaire and 9 participated (56.3 %).
- **Trainees** were predominantly females (92.9 %), with a mean age of 37 (minimum=24; maximum=74), and were predominantly medical doctors (28.6 %).
- **Lecturers** were in equal number females and males (50 % males and 50 % females), with a mean age of 47 (minimum=28; maximum=75) and were predominantly medical doctors (28.6 %).
- Of the total number of **stakeholders** invited to the interview (n = 12), 11 have participated.



1. Participants
2. Results by evaluation framework components
 1. Formative needs and capacities
 2. Participant selection process
 3. Pedagogical process
 4. Training
 5. Alignment between EU Member States

Formative needs and capacities

- The results of the evaluation **showed adequacy of the proposal** of the *European Health Information Training Programme* **towards the formative needs and capacities** of both trainees and lecturers, **highlighting the importance of updating the needs assessment** over time.
- The **main thematic areas** were also **aligned** with the areas identified in the **formative needs and capacities mapping** (previous to evaluation).



1. Participants
2. Results by evaluation framework components
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Participant selection process

- In general, trainees, lecturers, and stakeholders **expressed a positive perception** regarding the participant selection process;
- The main suggestions and recommendations regarding the participant's selection process were a wider and earlier call for participation, involving eventually social media, and the inclusion of more profiles of participants and different pedagogical projects accordingly.
- Regarding to the **alignment of the candidate's motivation** and the theme **and objectives of the course**, the **curricular programme was coherent** with most of the expressed needs and motivations.



1. Participants
2. Results by evaluation framework components
 1. Formative needs and capacities
 2. Participant selection process
 3. Pedagogical process
 4. Training
 5. Alignment between EU Member States



Pedagogical process

- In general, the EHITP proposal is **aligned** with the WP6 InfAct **protocol (5)**, as well as with the results of the **evaluability assessment**;
- **Alignment** between the **pedagogical project and the expectations** of the **trainees** of the 1st European School on Health Information was found.
 - However, the participants suggested: **to deepen the vocational character of the course and to in depth specific thematic areas** (General Data Protection Regulation - GDPR -, interoperability and methodological approaches based on epidemiology and public health).
- The **stakeholders'** interviews results about the quality of the pedagogical project were in **general consistent**, especially with **regards to the quality and adequacy of the lecturers and sessions (interconnected and not overlapped)**.



1. Participants
2. Results by evaluation framework components
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Training

- Regarding the **attendance** of the course, 90% of the **trainees** participated in all or all except one of the sessions held.
- From the **trainees** that responded to the questionnaire: all considered that **in general the learning objectives were achieved**; 11 out of 14 (78.6 %) considered that the course **contributed to learning and/or improving their technical execution skills**;
- 11 out of 13 (84.6 %) admitted **advising to replicate the experience to other potential trainees**.



Training

- According to the document analysis of the **assessment surveys reports of the course**, the **trainees' satisfaction was consistent with the results of this evaluation**. Through a scale ranging from 1 (not suitable) to 5 (fundamental), from those that answered (more than 50 % in all sessions) more than a half considered the sessions very suitable (value 4) or fundamental (value 5).
- The examples given by trainees to illustrate the learning and the improvements expressed included: exchange of *“knowledge and skills with others”*; improvement of *“knowledge of the European data landscape and how to navigate it”*; *“better critical thinking”* or *“better work in a European team”*.



Training

All **lecturers** who evaluated globally the course (n=8) **considered the initiative as positive:**

"It had to be virtual and, in spite of that, the overall opinions of the participants about the contents and their learning process was satisfactory";

"Generically, it involved students from almost all EU countries that were interested and developed interesting work during the course sessions";

"On the day which I delivered a lecture and facilitated a discussion group, all the participants had a very positive attitude and engaged very well with each other and with the lecturers";

"The course was a success and it delivered valuable knowledge and experience to participants who were interested in health information";

"As a pilot course I wasn't sure about the response from the students to the contents, but it turned out really well".

However, lecturers gave **some suggestions** for improved communication in **logistic** questions.



1. Participants
2. Results by evaluation framework components
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Alignment between EU Member States

The **perception** of trainees, lecturers and interviewees **on the potential of the EHITP proposal** to contribute to the alignment of health information criteria and procedures between EU Member States **was in general positive, being admitted as paramount to:**

- the homogenization of capacity building
- the alignment of criteria and procedures with the replication of the courses and
- a potential positive impact on global public health development.

The results of the document analysis were also consistent.



Limitations

- **Not feasible to measure the impact** of the EHITP, not even in an exploratory way, mainly due to the short time between the object of evaluation and the evaluation data collection.
 - Therefore, despite the fact that the evaluation design is based on a logical model, the attribution of results and impact cannot be addressed.
 - Although the European and national contexts are integrated in the logical model of the EHITP, it was not possible to consider its effects in the discussion of the evaluation results.
- Due to the pandemic, all phases of the evaluation were done **remotely**, which may have, to some extent, **hindered part of the qualitative approach**, as it was not possible to conduct the interviews in person.

Conclusions and Recommendations

The global evaluation was positive concerning all components of the logical model, including:

- the documentation that presented the course; the pedagogical project;
- the learning, capacity building and potential to behavioural changes at work attributable to the course and
- the alignment of criteria and procedures in health information between the EU MS.

Conclusions and Recommendations

The **main specific recommendations aimed especially at strengthening some components of the proposal**, in view of future courses/ training activities within the scope of the EHITP.

- adequacy of the participant selection process regarding the time of the application period and the profile of the candidates
- reinforcement of the importance of the regular update of the health information needs assessment and use of the results;
- sustaining the preference for courses with modular curricular programmes and a diverse curricular contents;
- in-depth approach to curriculum content related to thematic areas considered at the time of particular relevance (GDPR, interoperability, and methodological approaches)
- improvement of the communication tools between all the participants in the programme;
- development of impact evaluation studies of the EHITP.

Conclusions and Recommendations

The final recommendation was the **incorporation of those specific recommendations in a new version** of the *European Health Information Training Programme*.

Regarding **future research** concerning this topic, the **evaluation team suggested:**

- more in-depth methods related to remote learning should be explored.
- Within the field of public health, future investigations should take into account the most up-to-date training theories in fully remote learning models.
- Given the time span that is required, future investigations should contemplate the timeliness needed to measure the attribution of results and impact.

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RESEARCH

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Evaluation of the European Health Information Training Programme (EHITP): results from InfAct Joint Action



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Thank you!

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