



Deliverable 3.2

SHIFT-HUB

Catalogue of educational resources

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SHIFT-HUB: D3.2 catalogue of educational resources

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Abstract
<p>SHIFT-HUB ((2022)3155251 - 22/04/2022) is an EU funded project that aims to establish a pan-European Smart Health Innovation Hub, bringing together a rich network of multidisciplinary stakeholders across the dimensions of the quadruple helix with the mission to facilitate the development, ensure the promotion and foster the uptake of Smart Health technologies and services.</p> <p>SHIFT-HUB also has the objective to develop a modular offer of support services covering technology and business development needs of the Smart Health community stakeholders, by directly providing services such as training and educational resources, based on offers made available by consortium partners, parallel initiatives, and partner organizations allowing community members to strengthen their skills.</p> <p>Hence the creation of this Catalogue of Educational Resources - a pool of online assets selected to allow community members, in particular Healthcare practitioners and their patients, to become proficient in the exploitation of emerging solutions in the field of Smart Health, to leverage them to facilitate their daily tasks, and to support the SHIFT-HUB community members to close the digital skills gap.</p> <p>This report is a companion piece to the online interactive SHIFT-HUB catalogue of educational resources available at: https://shift-hub.eu/resources/ and at AirTable.</p>
Keywords
<p>Educational resources, Reskill and Upskill, Adult education, Digital Skills, Health Skills, Digital Ecosystems</p>

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Introduction

Closing patients' digital gap, so that they can harness the potential digital health tools and improve their health outcomes, but also skilling and re-skilling workers to prescribe digital health technologies is crucial in today's rapidly advancing technological landscape. This is especially important for healthcare workers, who need to improve their digital literacy skills to keep up with the emergence of medical and healthcare technologies [1]. Digitalization is also important for other sectors of society, such as entrepreneurs, SMEs, companies, and students, as it offers opportunities for innovation and growth [2]. In fact, the European Union recognizes the importance of digital skills and has set a target of upskilling 70% of the EU's adult population by 2025 [3] including specific guidelines for health care professionals [4]. Even for patients, the benefits of digital health technologies are numerous, including increased access to healthcare services, improved patient outcomes, and better disease management. However, patients need to have the necessary digital skills and health literacy to use these tools effectively [5]. The cost-effectiveness of digital health interventions has also been studied, with a systematic review of the literature finding that digital health interventions have significant potential to improve safety, efficacy, and quality of care, reducing waste in healthcare costs [6]. In addition, the European Union recognizes the importance of digital health and care, referring to tools and services that use information and communication technologies (ICTs) to improve prevention, diagnosis, treatment, monitoring, and management of health-related issues [7]. And, on a similar note, the OECD has also recognized the potential benefits of digital health technologies, with a report highlighting that digitally enhanced health services can improve access and help move away from reactive towards proactive approaches to preserving health [2].

For workers in general and health care practitioners in particular, the need for digital skills is driven by market needs, rapid technology advancement, and the challenges of dealing with an aging population with multimorbidities. The COVID-19 pandemic has further highlighted the importance of digital health technologies, with many healthcare workers having to change their workflows to accept new tech tools [8] [9]. The European Commission has recognized the importance of digital skills for healthcare workers and has launched initiatives such as the Digital Skills and Jobs Coalition to address this need [4] [2]. The benefits of digital health technologies for workers are numerous, including the increase in employee productivity, the improvement of the efficiency and effectiveness of the operation of the health units, and the reduction of their operating costs¹¹. Digital health technologies can also help healthcare workers to provide better care to patients, improve patient outcomes, and better manage diseases [10].

To aid in these challenges, SHIFT-HUB aims to support the smart health community, including healthcare practitioners and their patients, in becoming proficient in the exploitation of emerging solutions in the field of Smart Health, by creating a pool of relevant educational resources. These resources are available through an interactive online repository (<https://shift-hub.eu/resources/>) that integrates material resources and training opportunities made available by external organizations on key topics for the community members. Included are general smart health topics such as data science and

protection, cybersecurity best practices, and basic competences to efficiently use the most suitable Smart Health applications, but also a range of themes polled among a sample of 357 individuals. This document and the online repository features 189 resources from EU funded mechanisms such as Erasmus+ and EIT programs, but also national and privately funded initiatives. More can be read about the selection and organization process of the courses in the next section ("Methodology").

In summary, SHIFT-HUB as a project aiming to establish a pan European Smart Health community, is aligned with the EU in recognizing the importance of empowering individuals in the usage of digital technologies. In practice this is achieved by providing a range of accessible on demand online learning resources to assist stakeholders in narrowing disparities in their digital capabilities.

This report aims to provide the methodological framework for the course selection and information organization presented in the online repository, while also featuring their long form format – with extra information not fit its' online version.

Methodology

This Catalog has been developed based on two approaches: 1) the deployment of a Educational Needs Assessment Survey, to gather data on the learning preferences of the Smart Health community, and 2) independent resource search on EU funded project websites and other privately funded sources.

To conduct a comprehensive review for this catalog, we have established a systematic search methodology, starting by the definition of defined research objectives with, outlining the specific themes and areas related to EU-funded projects such as Erasmus+, Horizon Europe, and EIT Health that we aimed to collect. Our search queries were constructed using standardized keywords and Boolean operators to ensure relevancy and specificity in our results, and we utilized advanced search features when available. To access trustworthy information, we focused on reputable databases, official project websites, academic repositories, and government sources where these projects' outputs are hosted. The date range was monitored to ensure the currency of our findings. Verification of source credibility was a paramount consideration throughout the process, with an emphasis on official and reputable institutions. Whenever a theoretical framework was necessary, proper citation practices were maintained to ensure transparency and facilitate reproducibility. Records of our search process were kept, documenting the databases and sources accessed, along with the queries employed and the results obtained (for example, Horizon Europe and Erasmus+ project booklets). To enhance organization and citation, reference management tools were utilized (endnote). This methodology was instated to improve the accuracy and reproducibility of our research process. See below a breakdown of the methodology employed for each data source followed by table 1, which comprises a summary of the whole process for the independent resource search on EU funded project websites and other privately funded sources.

1) Educational Needs Assessment Survey

This original survey was developed to capture a quick snapshot of the educational preferences of the smart health community. The “educational preferences assessment survey”, hereinafter called the survey, is comprised of two main parts: a) background information, and b) educational preferences assessment. **Part A** is meant to characterize the sample, providing data on country of residence, age, years spent in school, job occupation, typology of the organization of origin, and health status. The questions, verbatim, were as follows:

1. **Where do you live? (country)**
2. **What is your age? (To the date of answering the survey)**
3. **How many years have you spent in school? (From the first year until the year of your highest and last education level. To the date of answering the survey)**
4. **What is your current job occupation (Current job or most recent occupation if retired/unemployed. If still exclusively in school/university answer "student". To the date of answering the survey)**

5. How would you classify your employer/university/NGO? (If retired/unemployed, or if still exclusively in school/university, answer "retired" or "unemployed" in the field "others". To the date of answering the survey.)
6. Has a medical doctor ever told you that you had a chronic illness? (To the date of answering the survey.)

A follow-up question to "Has a medical doctor ever told you that you had a chronic illness?" asking which disease the person had been diagnosed with was initially designed but was removed after advice from the University of Porto Data Privacy Office. This to avoid any potential identification of respondents and avoid dealing in sensitive clinical information. The objective of assessing the respondents' health status (as chronic patients or not) was to reach out to the "patients" demographic without specifically reaching out to health care institutions whose bureaucratic and data management structures would difficult the data collection process in useful time.

Part B offers the opportunity to respondents to share their educational preferences. The questions were kept concise and straightforward, aiming at gathering useful information to the construction of this repository. Hence, participants were asked to describe their current usage of health technologies, which types of online digital educational resources they were already using (or not), preferred Smart Health topics, usage of online resources to share smart health knowledge with others, and preferred characteristics for an educational resource. The objective of these questions was to assess how the respondents prefer to learn, in general.

People's preferences for learning models, whether online, in person, or blended (b-learning), can vary depending on their educational level, age, and job occupation. A study published in the "International Journal of Educational Technology in Higher Education" (2021) found that university students preferred blended learning, as it allowed them to balance their coursework with work and other commitments [11]. According to a survey by Educause Review (2019), younger learners are more likely to appreciate online and blended learning, with 92% of Gen Z students reporting a preference for blended courses [12]. And research published in the "Journal of Continuing Education in the Health Professions" (2016) showed that healthcare professionals often preferred online continuing education courses due to the flexibility they offer [13]. The availability of options, flexibility, and the quality of educational experiences play essential roles in determining the most suitable learning mode for different individuals. People's preferences for different types of educational materials can vary depending on their learning styles, goals, and access to resources. For example, A study published in "The Journal of Academic Librarianship" found that graduate students often preferred research papers as they sought authoritative and detailed sources [14], while online courses have gained popularity, especially among adult learners and working professionals, due to their flexibility and the ability to acquire specific skills [15]. But not every learner has the time to invest in a fully fledged course, hence short, focused video content is popular among learners who prefer visual and auditory learning styles [16] [17].

For the sake of simplicity and to avoid a long survey which might have yielded a smaller sample, some aspects as the social context of the learning experience (job upskill, job

requirement, academic requirement, etc), the personal motivations for continued education (self-improvement, curiosity, etc) or even a clarification of the preferences (do you prefer in person learning? Why?) were not assessed in this study but are interesting research paths for future surveys. The questions, verbatim, were as follows:

1. **Do you prefer online or in-person courses?**
Online, In-person, Blended methods (b-learning)
2. **Describe your usage of digital health technologies?** (In the last 12 months. Digital health technologies as in health monitoring apps, health monitoring wearables, health care access apps, for example.)
None, Infrequent (monthly usage), Frequent (weekly usage or less), Very frequent (daily usage).
3. **Which digital educational resources have you used in the past 12 months?**
Single topic online articles, Single topic online videos, Scientific papers, Structured online courses, e-Books, Reports, No online educational resources.
4. **In which Smart Health topics are you interested?**
Artificial intelligence, Big Data, Cyber security, Data Governance, Digitalization, Digital Health, Entrepreneurship, Healthcare service organization, Humanities in the Digital World, ICT skills for users, Scaling up models, Soft Skills for Health Care Professionals and Informal Carers, and Urbanization and Health care.
5. **Any other topics you would like to learn more about?**
6. **Have you recommended or used digital resources (courses, videos, apps, papers) to transfer smart health knowledge to others in the past 12 months?** (for example, patients, clients, family members etc.)
Yes/No.
7. **Choose your preferred characteristics for a digital educational resource.**
Price (low or free), Open access, On your native language, Concise and simple topic, Detailed with links to multiple resources, Focus on visuals: video, photography, graphics, and images, and With certification.

Questions 1,2 and 5 are single choice items, 3, 4 and 6 allow multiple answers, and 5 is open ended. The survey was exclusively implemented on an online format, in English, and Portuguese via google forms. There was a translation made to Italian which yielded no responses. A first version of the survey was shared with the SHIFT-HUB consortium for validation in May 2023. This version was the disseminated across the project's communities and social media channels¹. A first round of dissemination lasted through the summer (June-September 2023) and yielded 49 responses across both the English and Portuguese version of the survey. This first round served as a pre-test for the survey to assess the accessibility and relevance of the questions. Feedback

¹ https://www.linkedin.com/posts/shifthubprojecteu_eu-europeanunion-shifthub-activity-7097935036967997441-IP8K?utm_source=share&utm_medium=member_desktop

from respondents (open ended questions) and from the SHIFT-HUB consortia was gathered which resulted in changes. For instance, the first version of the survey didn't include the "Humanities" theme. The addition of this theme was suggested by respondents who have claimed to be interested in AI Ethics (n=3). Furthermore, some individuals referred to want to learn more about specific scientific areas such as epidemiology and public health, hence another category focused on assorted courses on human health were added to this repository – "scientific frameworks in Human health". In addition, after consultation with the SHIFT-HUB consortium, it was decided to add a theme specialized in the learning needs of patients – "health literacy and disease management for users", which could not be added to the survey which had already been launched.

As a final effort to reach a wider audience, the University of Porto Communications Office was contacted to disseminate the survey across its whole academic community. This was not the first approach to avoid an over representation of Portuguese and Academia respondents, which ended up happening. Hence results from this study cannot be widely generalized to other population samples, or to the smart health community as a whole. It nevertheless provides valuable insights taken from a specific populational segment that helped inform decisions in the design of SHIFT-HUB's catalog of educational resources. Nevertheless, the main framework informing most decisions regarding this document was the text from the project's proposal, mostly regarding task T3.4. The pre-test version of the survey was submitted to UPorto's Data Privacy Office for validation, which prompted a few changes that were already discussed above, but in general, the study was accepted and circulated. At the end of October, the survey had 357 responses.

This deliberated choice for a simple online survey had its benefits and drawbacks. On one hand, it made its distribution easier and more accessible – at least for respondents with internet access and basic digital skills. On the other, as expected, digitally excluded individuals were unable to participate. These "hard to reach populations", low education, low digital skills, and generally speaking, elderly persons could only be effectively reached through in-person methodologies which were excluded from the scope of the study.

Results

Our sample is mostly comprised of 357 individuals from Portugal (83,2%), Italy (5.9%) and Germany (2.8%), with an age range of 17 and 75 years old (mean = 35.94, SD=15.03) and an average of 18.05 years spent in school (SD=5.98). Hence this is a highly educated adult population, which can only be illustrative of a small segment of EU citizens. For instance, older adults (over 65-year-old people comprise 2.5% of the sample) and persons with lower education levels (between 0 and 9 years in school) were underrepresented (2.1%). Images 1, and tables 1 and 2 provide more information regarding the sample's country of residence, age, and years in school.

Table 1: Country distribution for the survey (n=357)

Country	n	%
Portugal	297	83.19
Bulgaria	4	1.12
Germany	10	2.80
Greece	5	1.40
Italy	21	5.88
Romania	11	3.08
Spain	1	0.28
Turkey	4	1.12
France	1	0.28
Timor-Leste	1	0.28
Brasil	1	0.28

As expected from previous results, most individuals surveyed work white collar jobs, generally as experts in the field of health care, technology, and project management.

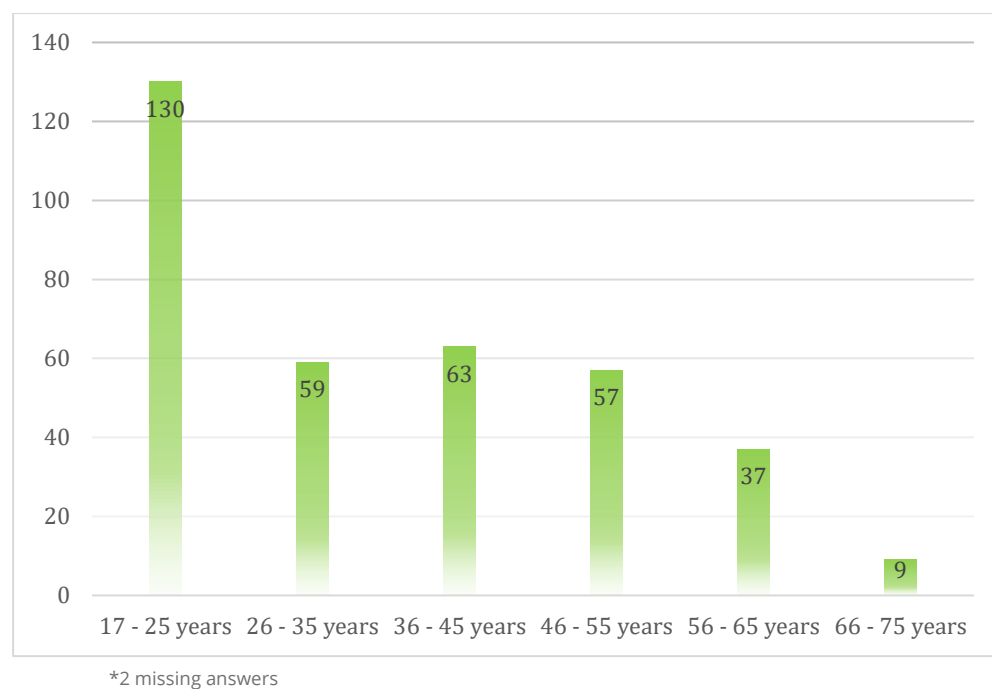


Figure 1: Sample's age distribution, by categories (n=355)

While the average age for this sample is around 35 years old, the category with the most weight is the 17 to 25 years old range, showcasing that this study has been able to successfully target young adults. Results shown on Figure 1 further support this claim.

Table 2: Years spent in school, by categories (n=339)

Years in school	n	%
1-9 years in school	7	2.0
10-12 years in school	56	15.7
13-15 years in school	50	14.0
16-18 years in school (could have achieved up to a Master's degree in Portugal)	100	28.0
19-22(could have achieved up to a PhD in Portugal)	90	25.2
Over 23 years in school	36	10.1

*18 missing answers

The years in school have been organized into categories related with the Portuguese educational system, which is the framework of reference for the majority of individuals in the sample. Individuals in the first category might have achieved finishing middle school, at most, followed by the second through sixth category relating to finishing high school, a bachelor's degree, a masters, a PhD, and those who might have attained more than one degree. In this last category, a few respondents referred being in school for over 3 decades. Since the veracity of these claims is not relevant for this study, these more extreme cases have not been removed from the final sample.

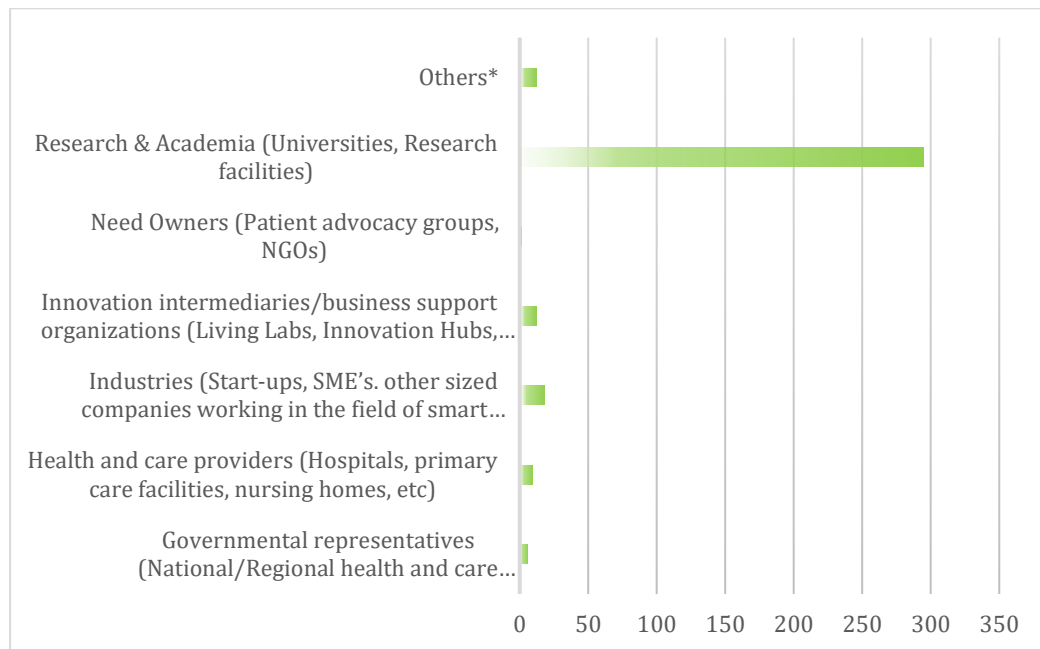
Table 3: Sample's job characterization (n=357)

Catalog themes	n	%
CEOs and directors	5	1.4
Health care professionals	23	6.4
Managers	18	5.0
Professors	62	17.4
Researchers	27	7.6
University students	141	39.5

Others (Engineers, consultants, admin workers)	76	21.3
Unemployed/Retired	5	1.4

As anticipated from a poll done mostly on respondents from the University of Porto universe, a large number of teachers, staff and students were to be expected.

This distribution already points to an overrepresentation of intellectual fields, which is confirmed by the classification of the respondent's organization of origin. By organization of origin, it is meant both employer, university or NGO where the respondents spend the majority of their public lives. This tendency was further corroborated by the next question, where respondents were asked to classify their organization of origin – employer/university/NGO.



*"Others" include retirees, students, and unemployed persons.

Figure 2: Sample's organization of origin (type)

As seen on figure 2, most respondents were employed by organizations related to research and academia, with a large lead to other categories.

Hence, in a nutshell, the sample for this study (n=357) is comprised of highly educated (18.05 years spent in school (SD=5.98) Portuguese adults (age mean = 35,94, SD=15.03), working in research and academia (82.6%) in research and academia organization as teachers (17.4%) or studying (39.5%).

Finally, out of 257 respondents, 29.4% have claimed to have had a medical doctor diagnose them with a chronic illness.

Then, **when it comes to educational preferences**, respondents were asked on how and what they prefer to learn – within the scope of Smart Health.

For instance, on the topic of online learning versus in-person courses, most respondents (55.10%) claimed to prefer a half-way solution: blended learning/b-learning.

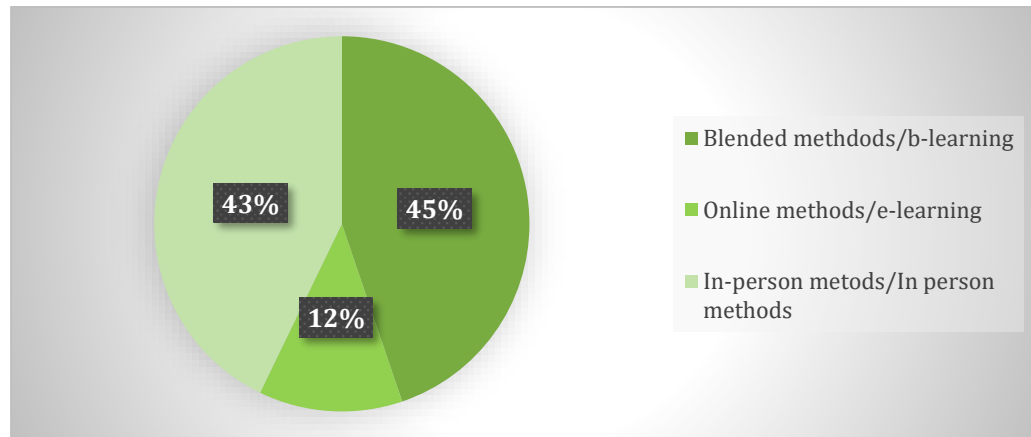


Figure 3: Do you prefer online or in-person courses?

Figure 3 showcases a “technical tie” between b-learning (44.5%) and in-person (42.6%) learning when it comes to the samples’ learning preferences. For this specific populational segment it seems that the role of in person knowledge sharing is still valued regardless of the current continuous trend towards digitalization and distance communication. In fact, 58.1% (n=36) of professors and 48.9% (n=69) referred preferring in-person learning. Table 5 presents the breakdown of learning methodology preferences by occupation.

Table 4: Learning preferences organized by occupation (n=356), in percentage

Occupation	b-learning	e-learning	In-person
CEOs and directors (n=5)	80	20	0
Health care professionals (n=23)	69.6	13	17.4
Managers (n=17)	52.9	29.4	17.6
Professors (n=62)	33.9	8.1	58.1
Researchers (n=27)	33.3	8.1	48.1
Students	41.8	8.5	48.9

(n=141)			
Others (Engineers, consultants, admin workers) (n=76)	48.7	17.1	34.2
Unemployed/Retired (n=5)	80	0	1

As for the objectives of SHIFT-Hub specifically, it should be noticed that most health care professionals in the sample favored b-learning methods, and none of the occupational categories favored e-learning the most. These preferences cannot be accommodated with the framework of T3.4 and deliverable D3.2, or catalog of educational resources. D3.2 is meant to be an interactive repository of knowledge, which to remain relevant in midterm needs to focus on demand permanent or semi-permanent contents, that can be accessed after the project's tenure. Offers that have a more in-person weight are generally time restricted, and hence would not be suited for this catalogue. Nevertheless, master's degree and PhD courses offered by European Universities or initiatives such as EIT-Health have also been added to the course listings.

Accounting for chronic disease diagnosis does not change this distribution, since both "patients" and "non patients" have very similar preference patterns, as seen on table 6.

Table 5: Learning preferences organized by the existence of a chronic disease diagnosis, in percentage (n=357)

Has a medical doctor ever diagnosed you with a chronic disease?	b-learning	e-learning	In-person
Yes	45.9	10.8	42.9
No	40	11.4	48.6

Then, when asked about their frequency of health technology usage, most respondents claimed it to be "infrequent", meaning monthly or less (n=121, 33.9%).

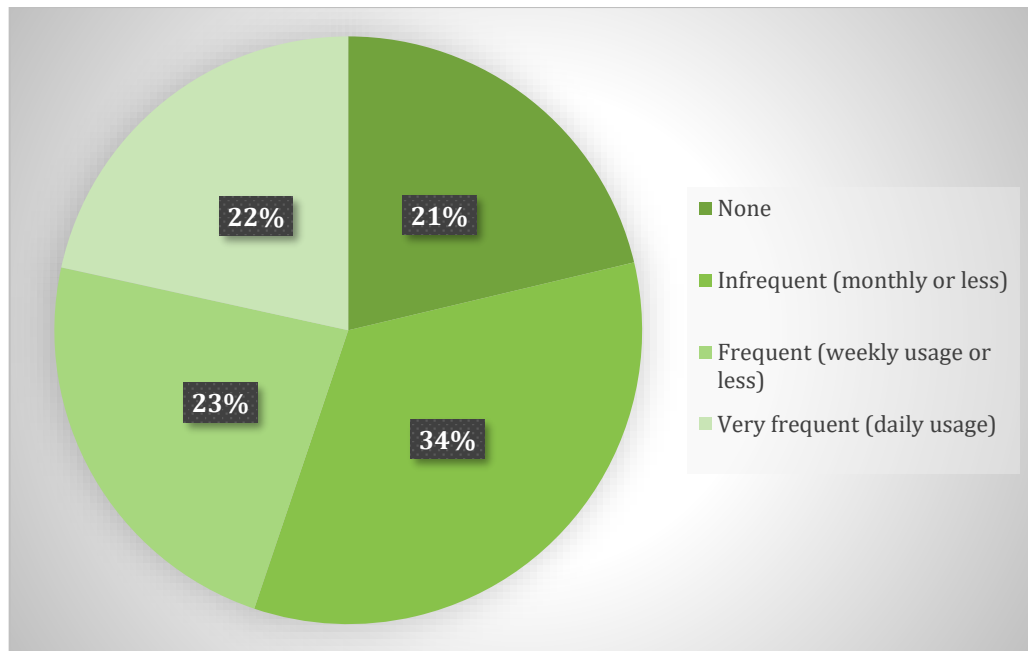


Figure 4: Frequency of health technology usage (n=357)

Interestingly, chronic disease status had no significant impact in this distribution. Respondents with a chronic disease diagnostic claimed to use health technologies very frequently in 27.6% of cases, 24.8% stated it to be frequent, 29.5% infrequent, and 18.1% none. Similarly, the usage percentages of respondents with no diagnosis were 18.2%, 23.4%, 36.4%, and 22.1% respectively.

In contrast, occupation seemed to have a slight impact on the usage of health technologies, with 52.2% health care professionals stating to use digital health technologies very frequently. This association is statistically significant with a as a Cramer's V of 0.342 and a significance level of 0.004.

Table 6: Frequency of health technology usage by occupation (n=357)

Occupation	None	Infrequent	Frequent	Very Frequent
CEOs and directors (n=5)	0	0	20	80
Health care professionals (n=23)	4.3	26.1	17.4	52.2
Managers (n=17)	33.3	33.3	11.1	22.2
Professors	17.7	35.5	19.4	27.4

(n=62)				
Researchers (n=27)	22.2	29.6	22.2	25.9
Students (n=141)	27	34	24.1	14.9
Others (Engineers, consultants, admin workers) (n=76)	18.4	38.2	27.6	1.8
Unemployed/Retired (n=5)	0	2	3	0

Age and time spent in the formal educational system do not have a significant impact on the frequency of health technology usage.

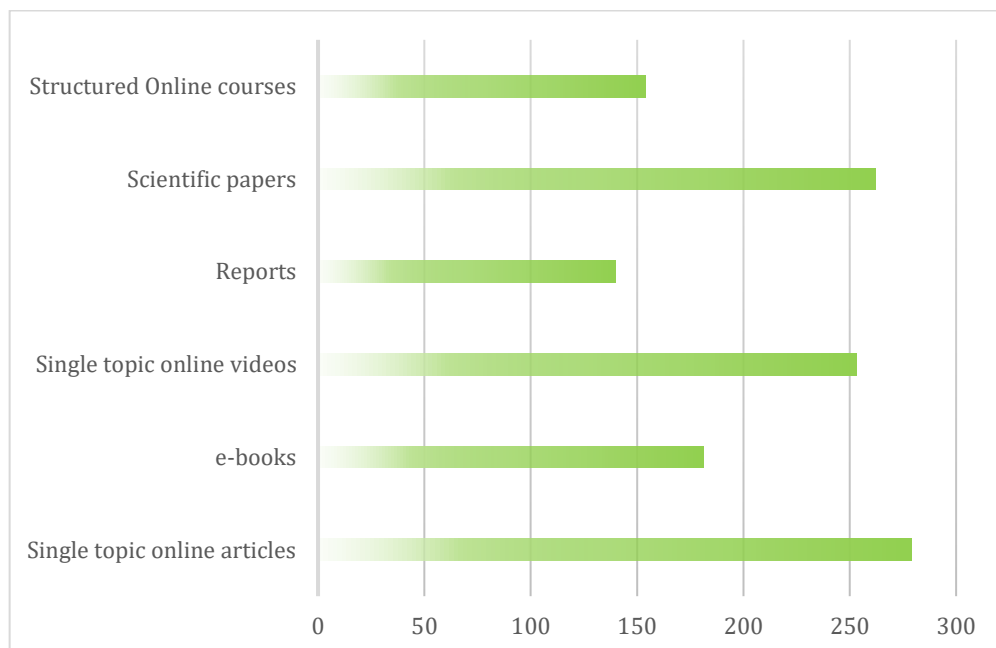


Figure 5: Frequency of usage of different types of digital educational materials in the last 12 months (n=357)

As already stated, most participants chose more than one resource typology, with a clear preference for scientific papers and single topic online articles. This information tracks with what could be expected for this specific population sample. Hence, there was a deliberate choice to add a couple of online articles to this repository based on 2 factors: a) them being associated to a larger course or online learning platform, or b)

them being recommended by a SHIFT-HUB Official Partner Organization (OPO)². Nevertheless, this repository is meant as a tool to reach out to a wider audience, including patients and health care practitioners, and hence there was focus on structured online courses/platforms. Courses are more time and effort intensive, compared to single topic items and scientific papers which can be often browsed within the context of regular work activities. This **focus on online courses and platforms was based the attempt to:**

- Guarantee a level of internal coherence and pedagogical oversight. These structured courses are developed by reputable organizations and experienced lecturers, so they seem the best candidates to provide information regardless of the familiarity of the student with the topic in matter. For beginners and experts, having a sequential learning curve can be beneficial.
- Encourage an upskilling and life learning perspective, where structured knowledge may help leverage current skills or aid learners in acquiring new capabilities to help them navigate the possibilities of the digital world.
- Control information bias. Single source articles and videos for the most part, can have their sources in specific organizations who may, or may not, have the best interests of the learner in mind. On the other hand, a course that has been developed by a consortium, as is the case of Erasmus+ projects, or steam from national initiatives, either be governmental or from NGOs, are subject to more public scrutiny and are often reviewed by peers. Private Initiatives, such as other learning platforms like Coursera and Future Learn were also added when hosting courses from EU organizations or that are very relevant to the themes of the Repository. An effort was made to select courses exclusively derived from reputable sources. In addition, many resources were offered for the same theme, as to provide potential learners with multiple points of view and methodological approaches.
- Provide an extra layer of visibility to EU funded projects, exposing their resources to the SHIFT-HUB community, and contributing to their mid-term sustainability.

² SHIFT-HUB Official Partner Organizations (OPO) are selected entities collaborating with SHIFT-HUB under a Memorandum of Understanding (MOU). This non-binding partnership aims to promote research and innovation in Smart Health. OPOs contribute to and benefit from SHIFT-HUB's activities, offering services, networking, and accessing tools. The collaboration is voluntary, emphasizing a win-win approach, and involves sharing expertise and resources within a pan-European framework..

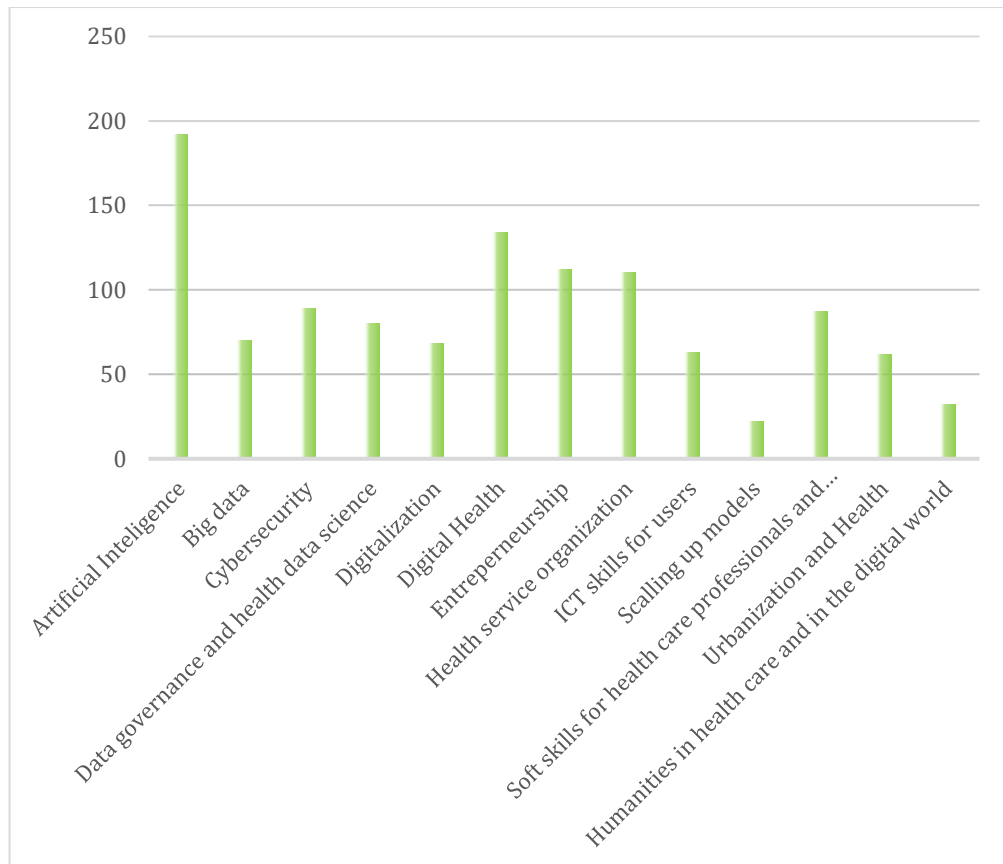


Figure 6: Preferred smart health topics (n=357)

The most respondents have claimed to be interested in artificial intelligence (53.8%) and digital health contents (37.5%). The sample for this small study ended up by branching out from the smart health community and reached a wider audience in the university of Porto, so it is an interesting not that only 41 respondents (11.1%) referred to not be interested in any of the presented topics, while 172 respondents (49%) have showed interest in between 2 and 4 themes.

Then, respondents were asked to share their opinion on what where their preferred characteristics for an online educational resource. They were asked to assess their favorability on improving access (price, open access, language) and structure (visuals, level of detail, certification) of learning materials.

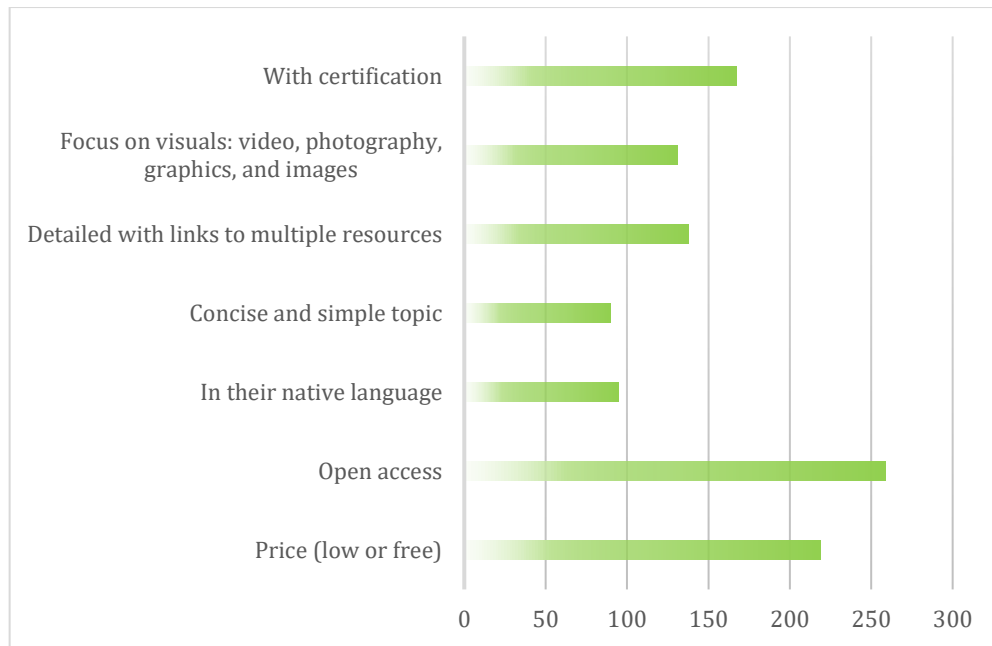


Figure 7: Preferred characteristics for an online educational resource (n=357)

Figure 7 above indicates that the surveyed population had put a lot of importance on the level of availability of the resources (free/low price with 61.1% and open access with 71.7%) and the possibility of have their newly acquired knowledge certified (46.8%). There was not a clear divide between concise and detailed resources, or a very strong preference for native language contents (26.6%) which can be related to Portugal's very high fluency in the English language, with an English Proficiency Score of 607³.

In the survey, over half of the 357 participants (51.5%, n=184) reported using digital resources to share smart health knowledge in the past 10 months. While the question aimed broadly at the smart health community, caution is advised when interpreting these. Notably, there appears to be a slight correlation between occupation and this recommendation. Among healthcare professionals, 82.6% (n=19) answered affirmatively, showing statistical significance with a Cramer's V⁴ of 0.246 and a significance level of 0.003.

To better align the data from the survey with the purposes of SHIFT-HUB, data was stratified by occupation, and focusing on health care professionals, and by diagnostic

³ Data retrieved from English Proficiency, and available at: <https://www.portugalist.com/english-spoken-in-portugal/>

⁴ Cramer's V is a statistical measure used to assess the strength and significance of the association between two nominal variables. It ranges from 0 to 1, with higher values indicating a stronger association. When applied to a binary and a multcategory variable, it helps quantify the degree of dependence, offering a standardized measure that adjusts for sample size.

status, focusing on the respondents who claimed to have been diagnosed with a chronic illness. This exercise does not intend to compare these two sub-samples among each other since they have vastly different sizes, or to make any correlation/association claims. It serves only the purpose of illustrating the main preference trends for the aforementioned groups.

Table 7: Main preference trends for health care professionals (n=23) and chronic patients (n=105)

Main preferences (>40%)	Health care professionals (n=23)	Chronic patients (n=105)
Learning preferences	b-learning (69.6%)	In person (48.6%)
Health tech usage	Very frequent (52.2%)	*1
Preferred theme(s)	Health care service organization (65,2%) Artificial intelligence (56.5%) Soft skills for health care workers (47.8%)	Artificial intelligence (55.2%)*2
Preferred characteristics for educational resources	Price low/free (87%) Open access (72.2%)	Price low/free (58.1%) Open access (70.5%) With certification (57%)
Preferred resource type(s)	Single topic articles (87%) Videos (91.3%) Scientific pappers (91.3%) Courses (87%)	Single topic articles (82.9%) Videos (69.5%) Scientific pappers (81.9%) e-books (52.4%)

*1 Health tech usage has generally even distribution when it comes to health tech usage frequency, with 29.5% claiming it to be frequent, 27.6% frequent, and 29.5% infrequent.

*2 The theme of health literacy and disease management was not added to the survey

The wider sample characterization in terms of age, educational achievement, country, and organization of origin cannot be forgotten when evaluating these results, that should not be generalized to other populations. Still, low priced/free, open access resources on artificial intelligence seem to be generally preferred.

2) Independent resource search

This catalog aims to feature up-to-date and mainly on-demand courses, to ensure its mid-term usability. Hence in person and time restricted courses have been excluded. To collect information for this document many sources were analyzed, starting Erasmus+ projects, H2020 program, but also knowledge produced by hubs such as the European Institute of Technology (EIT), and the case of EIT Health RIS hubs, to which UPorto is a hub of. For each source, a specific search methodology was applied, to align the specificities of data organization for each one, and the needs of the SHIFT-HUB community.

In a nutshell, since these not all types of initiatives weren't necessarily designed to be geared towards direct training, only specific outputs were selected for this repository. This selection was based on if the outputs were a) online, on-demand and freely accessible⁵, b) in an EU language, c) relevant for SHIFT HUB's general thematic (health innovation and industries), and d) transferable knowledge that can be used outside the scope of the original project.

Searches were performed between June 2023 and October 2023.

Educational resources were organized into thematic categories, developed based on the objectives of SHIFT HUB and its community, such as Big Data, cybersecurity, and entrepreneurship, among many others. Within these categories, the learning modules are presented in alphabetic order.

For instance, Erasmus+ project results (<https://erasmus-plus.ec.europa.eu/projects/search/>) are centralized in a platform that allows for criteria filtering and to input detailed queries. Search was performed in the Erasmus+ platform with the following criteria:

- Project status: "with results" and "with results"
- Topics: "Health and wellbeing", "ICT – new technologies – digital competences"
- Search terms: "Health, technology", "Digital Health", "Smart Health", "artificial intelligence", "cybersecurity"

For each search, a booklet and database were automatically generated and downloaded, yielding 1001 valid results. Then, each entry was evaluated in terms of relevance and accessibility. Course focusing on topics other than health, such as education, citizenship, or communication were excluded – only courses related to health and healthcare were included. All resources had to be freely available, and easily accessible. Projects with "report only" types of resources were excluded, unless the report was comprised of a detailed course syllabus with relevant content. The number of selected Erasmus+ courses is presented in a later section.

For **Horizon 2020 and Horizon Europe projects**, Uporto's own network was mobilized, to flag potential EC-funded projects with outputs that could be of interest to SHIFT

⁵ With the exception of Masters and PhD programs

Hub's community. Furthermore, the CORDIS platform (<https://cordis.europa.eu/search>) was used to perform a similar search operation as in Erasmus+ projects, with the basic search filters:

- Content programme: "Horizon Europe" and "Horizon 2020"
- Content: "projects"
- Domain of application: Health
- Language: English
- Field of Science: all
- Search terms: "Digital health", "education", "training"

The term "training" was added because the Horizon framework isn't as geared towards education as Erasmus +, and the remaining search words were kept vague as to cover more potential projects. This search generated 250 results. The selection criteria from Erasmus+ was also applied for these programs and the final numbers can also be seen in the following section.

For the **European Institute of Technology**, the search started on the main website and derived to its subsidiaries, mainly EIT Health, EIT Digital, EIT Urban Mobility, and EIT Food. Each website was browsed to search for relevant educational offers for SHIFT-HUB: Health and technology.

Resources shared in the **Digital skills and jobs coalition** website⁶ were also collected and added to the repository, whenever they aligned with the thematic of the repository. Only health and care industries and smart health innovation adjacent topics were selected, excluding for instance basic science projects, and non-human-health related projects.

Another source of resources was the **Digital Skills Map**(<https://digiskillsmap.com/en>) platform.

An important notice is that courses and resources were checked for availability at the time of publishing this document, and SHIFT-HUB cannot be held responsible for broken links and resources that become available after the duration of their respective projects/initiatives.

Table 8: Resource research methodology for EU funded resources (summary)

Source	Filters	Search terms	Nr of results	Inclusion criteria	Included results
Erasmus+	Project status: "completed, with results" Topics: "Health and	"Health, technology", "Digital Health", "Smart Health", "artificial	1001	Online, on-demand and freely accessible, b) EU language, c) relevant for SHIFT	48

⁶ <https://digital-skills-jobs.europa.eu/en/opportunities/training>

	wellbeing", "ICT – new technologies – digital competences"	intelligence", "cybersecurity"		-HUB's general thematic (health innovation and industries), and d) transferable knowledge that can be used outside the scope of the original project	
Horizon (H2020)	Content programme: "Horizon Europe" and "Horizon 2020" Content: "projects" Domain of application: Health	"Digital health", "education", "training"	250		14
EIT Health	"Health professionals and executives" "Patients and citizens"	Non applicable	46	Online or hybrid, on-demand or with regular frequency/on- going	18
Digital skills and jobs coalition website	No filters	Health	20	Related with the field of health/smart health; administrated by EU organizations	NA*
Digital skills map	Not applicable (clickable map)	Not applicable (clickable map)	54	Related with the field of health	NA*

*Not direct sources/funding mechanisms for the resources

This more structured search eventually branched out towards other sources, mainly individual national and private initiatives, alongside non-EU course platforms such as Future Learn and Coursera. A methodologic decision was meant to not pursue a structured research methodology of smart health educational resources in these types of platforms. As previously mentioned, one of the purposes of this catalogue is to showcase the outputs of EU funded projects, and the aforementioned platforms already function as a catalogue of resources, hence the effort would be a fruitless endeavor. Learning materials from these sources were added to this document if they fulfilled at least one of the following requirements: a) be associated with EU funding programs, for example EIT, b) be developed by a EU institution, such as EU universities, c) be relevant to the thematic of SHIFT-HUB and fill knowledge gaps unaddressed by EU funded resources.

Takeaways & Suggestions

The first considerations to take from the Educational Needs Assessment Survey's results regard the characteristics of the sample. While a first approach was made to reach out to the SHIFT-HUB community, attempting to reach a more diverse European population, that effort did not yield satisfactory quantitative results. The first 49 respondents, while diverse in country of origin, were mostly comprised of project managers, teachers, and students. Reaching out to health care professionals and patients (those who referred having a diagnosed chronic illness) would probably be more effective by casting a wider net and leveraging the UPorto community, acknowledging beforehand that the Portuguese academic community would be over-represented in the study. Hence, extrapolations from this study to a wider SHIFT-HUB or even European community should be taken with a grain of salt. Nevertheless, these results provided a perspective that helped inform decisions in the development of this catalog, such as in:

1. The addition of some scientific articles, in accordance with criteria already discussed in above sections.
2. The addition of a "with certification" tag to the courses since this characteristic was valued by users.
3. The addition of the "Humanities in the digital world" theme, to encompass some of the suggested topics by respondents, which revolved around the ethics of AI, and the "Scientific frameworks in human health" for respondents that had shown interest in more science heavy topics, which includes genetics, rare diseases, and statistics, for example. The "Humanities in the digital world" was added to the survey since it came up in the first round of dissemination, while "Scientific frameworks in human health" came at a later stage. Another topic "Health Literacy and disease management for users" was added based on feedback provided by the SHIFT-HUB consortium, and not directly by survey results.

Furthermore, the development of this deliverable has served the purpose of exposing a fraction of the immense wealth of knowledge being produced by EU projects and how difficult it is to find and advertise these results. With this in mind it makes sense that often citizen isn't aware of these resources that eventually fail to reach their full potential. While many websites that aggregate these outputs are available, they are often not particularly user friendly – at least for users lower levels of digital literacy – such as the Erasmus+ platform, or are very topic oriented, such as Digital skills and jobs coalition or the Data.Europe.Eu websites. This fragmentation presents a significant challenge for learners and trainers. Hence the following policy takeaways are meant as mere suggestions for the development of a possible future platform that would aggregate, organize, and ensure a standard of quality for EU funded outputs developed with pedagogical intent.

- The re-usable materials from Erasmus+ programs, for instance, are currently difficult to find and evaluate. To ensure that the best quality educational materials are visible and accessible to learners, the adoption of a learning platform in the molds of

Coursera, NAU, or FutureLearn would be valuable. This would entail an effort by the commission to institute “output evaluation boards” to help select the best courses, videos, reports and overall educational materials to feature and disseminate.

- Implementation of some form of official EU certification after the completion of these courses could also improve its uptake. In addition, and similarly, to some micro certifications, these courses could also attribute a small number of ETCs for select courses in specific universities after careful consideration for the content’s validity. The widespread use of the Moodle platform is an example of how many in-class contents have transitioned to online formats, hence, the inclusion of EU funded educational materials wouldn’t present much of a technical difficulty. Also, many EU countries have instituted, by law or good practice, some form of on-the-job life learning activities that could also benefit from the materials generated by these projects. The “Soft Skills for Health care professionals and informal carers” present some examples of readily accessible courses that professionals could access without much time effort, but that would need to be officially accepted and validated by employers.
- Reaching patients, users, and the overall population to engage in EU projects is still a challenge. A solution could be built around funding of an EU community consulting program. A grassroots effort to develop a multi-stakeholder, cross sectional, and trans-European community of individuals and organizations not directly affiliated with EU funded programs to participate in research, co-creation efforts, and community events. Initiatives such as the SHARE survey database prove that these types of activities are doable, but instead of focusing on quantitative data, spotlighting qualitative data and co-creation. A panel of volunteers as a representative sample of the EU population could then be segmented by socio-demographic characteristics and then mobilized whenever EU projects needed to consult with citizens.
- Language barriers still need to be addressed – while many users refer that having educational materials written in their own language as preferable, most EU deliverables are written in English by default. This doesn’t have to be a hindrance In principle, but to reach users, or there is a translation effort, to reach regional audiences, or, the learning of the English language needs to be added to digital and health literacy skills toolboxes for general populations – which can be considered as a cultural pain point for some countries.
 - Both the previous points can be an aid to a future where EU funded initiatives outputs are effectively used by the population, outside the sphere of experts and project managers.
- Accessibility, in the direct sense of being able to access contents, needs to be accounted for. Our survey, despite its methodological limitations, has shown that learners value accessibility of contents, hence having courses and educational materials in a single website, with on demand access or accessible with a single login/password would be valuable. In the current conditions, an individual interested in learning about a particular topic, might have to manage several log-in credentials.

In summary, while this catalogue was developed with the express propose of providing life-learning tool to service SHIFT-HUB’s growing smart health community, some basic

considerations on the accessibility and organization of EU funded resources seemed necessary. The database research experience coupled with our survey's results exposed the pain points addressed in the topics above, and that if resolved would greatly improve upcoming educational EU funded project's impact and have a positive influence of citizens' literacy and empowerment.

Catalogue Overview

The SHIFT-HUB catalogue of educational resources features 189 entries, organized into 15 main themes.

Table 9: Resource distribution by catalogue themes

Catalogue themes	n	%
Artificial intelligence	17	8.9
Big data	5	2.6
Cybersecurity	18	9.5
Data Governance and Health Data Science	15	7.9
Digital Health	17	9.0
Digitalization	8	4.2
Entrepreneurship	16	8.5
Health Literacy and disease management for users	16	8.5
Healthcare service organization	7	3.7
Humanities in health care and in the Digital World	9	4.8
Artificial intelligence	17	9.0
ICT skills for users	20	10.6
Scaling up models	3	1.6
Scientific frameworks in Human Health	9	4.8
Soft Skills for Health Care Professionals and Informal Carers	24	12.7
Urbanization and Health	5	2.6

The catalogue features an assortment of different themes, with a special focus on resources aimed at patients and technology users in general (ICT skills for users 10,6%, Health Literacy and disease management for users 8.5%) and health care professionals (Soft Skills for Health Care Professionals and Informal Carers 12,7%), as suggested in the project's grant agreement task. Nevertheless, SHIFT-HUB opened the scope to add themes related with other actors from the smart health value chain, such as entrepreneurs and researchers.

In fact, when it comes to the resource distribution by target audience, the scenario is as seen in the table below.

Table 10: Resource distribution by target audience

Target audience	Number of educational resources targeting
Health care professionals	74
Informal carers	7
General population	80
Students	80
Researchers	17
Companies	39
Trainers	8

As seen in the table above, most resources featured in this catalogue are aimed towards health care professionals, students, and the general population. Some target audience categories are kept broad for the sake of the usability of this document, but some clarification on the types of stakeholders included in each is necessary. In order to better understand the organization of the catalogue, it is important to take a closer look at the definitions for the different types of stakeholders allocated to the category of “target audiences” and how courses, videos, and text documents were organized into “resource types”.

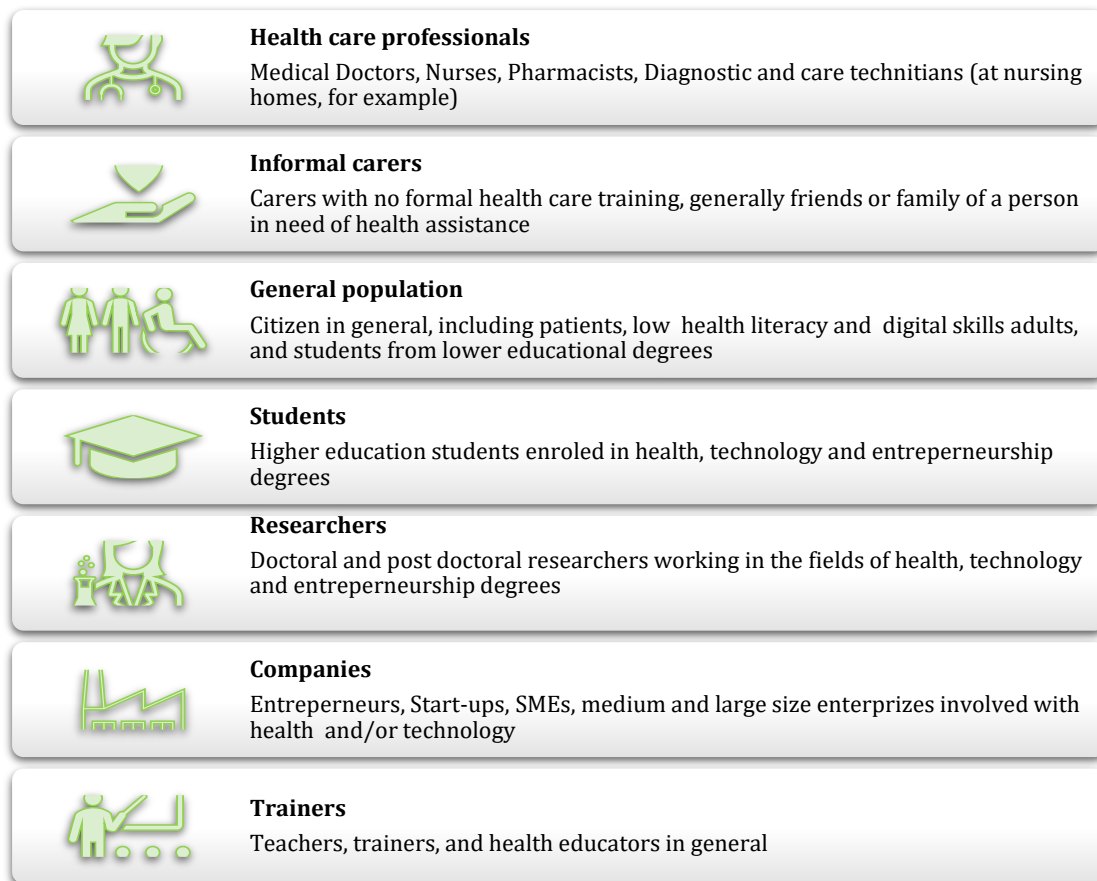


Figure 8: Target Audiences

These seven stakeholder categories were loosely based on the stakeholders from the Vale-based Health Care model: providers, payers, suppliers, and society [18] [19] [20]. Patients (“included in General population”) are the ultimate beneficiaries of value-based healthcare, as they receive better health outcomes for the cost of care [21]. Providers, including hospitals, health systems, physicians, and nurses, aim to increase operating income and improve the quality of care they provide and payers, such as consumers, employers, and taxpayers, strive to cap the total cost of care without reducing service [22]. For the purposes of this catalogue, the institutional/governmental stakeholders from the “payers” side were not added because no relevant resources were found targeting them. Suppliers (“companies”, “researchers”) compete based on the unique, measurable value of medical devices, pharmaceuticals, services, and supplies [19] ²³. A category for trainers and students was also added to account for the crucial role of continuous education in the development of future health care professionals, as well as in the health literacy and empowerment of patients.

When it comes to resource type – meaning the *format* it assumes as an online asset – this catalogue has categorized its contents in 7 basic forms:







	Online learning platform An assortment of educational resources of various types (video, readings, images) compiled, by theme, in a website. This generally takes the form of online course, but also pages with organized information.
	App A phone or tablet application, readily available for download, with educational or disease management features
	e-book An online book, readily available to the public
	Report A thematic organizational document generally developed by an EC funded project or initiative, with relevant educational value for the themes in this catalog
	Scientific Publication Generally a research paper, with relevant educational value for the themes in this catalog, and suggested by SHIFT-HUB's Official Partner Organizations
	Video A video or series of videos focusing on a specific topic
	Master Program A EU based, hybrid or online Master Program
	PhD program A EU based, hybrid or online PhD Program

Figure 9: Resource types

This division is based on practical criteria of availability (PhD and Masters programs have formal access requirements, while the remainder have not) and knowledge transfer structure (structured – online learning platform; flexible/thematic: the remainder). Table 11 showcases which types of resources are more frequent in this catalogue.

Table 11: Resource distribution by types (n=189)

Resource types	n	%
Online learning platform	149	78.8
App	6	3.2
Online learning platform and App	6	3.3
e-book	3	1.6
Scientific publication	2	1.1

Report	11	5.8
Video	5	2.6
Master Program	4	2.1
PhD Program	2	1.1

There was a deliberate choice to focus on Online learning platforms – “courses” for short – based on the fact that courses are designed to achieve a determined educational purpose, developed by teachers (generally speaking) and hence have a higher likelihood to provide materials with pedagogical and scientific relevance. This is because this catalogue provides resources for stakeholders with varying levels of educational attainment, and accessible to the largest number of citizens. Hence, an effort was made to collect educational materials in different European languages and free of charge – see table 12 and image 10 for more details on these matters. Nevertheless, most content is shared in English, and some materials are hidden behind a paywall.

Table 12: Language displayed in the catalogue’s resources (n=189)

Language	n	%
English	166	87.8
Spanish	16	8.4
German	12	6.3
Greek	8	4.2
Portuguese	7	3.7
Italian	5	2.6
French	4	2.1
Dutch	2	1
Bulgarian	2	1
Polish	1	0.5
Danish	1	0.5
Latvian	1	0.5

Swedish	1	0.5
Ukrainian	1	0.5
Croatian	1	0.5
Czech	1	0.5
Lithuanian	1	0.5
Serbian	1	0.5
Romanian	1	0.5
Finish	1	0.5

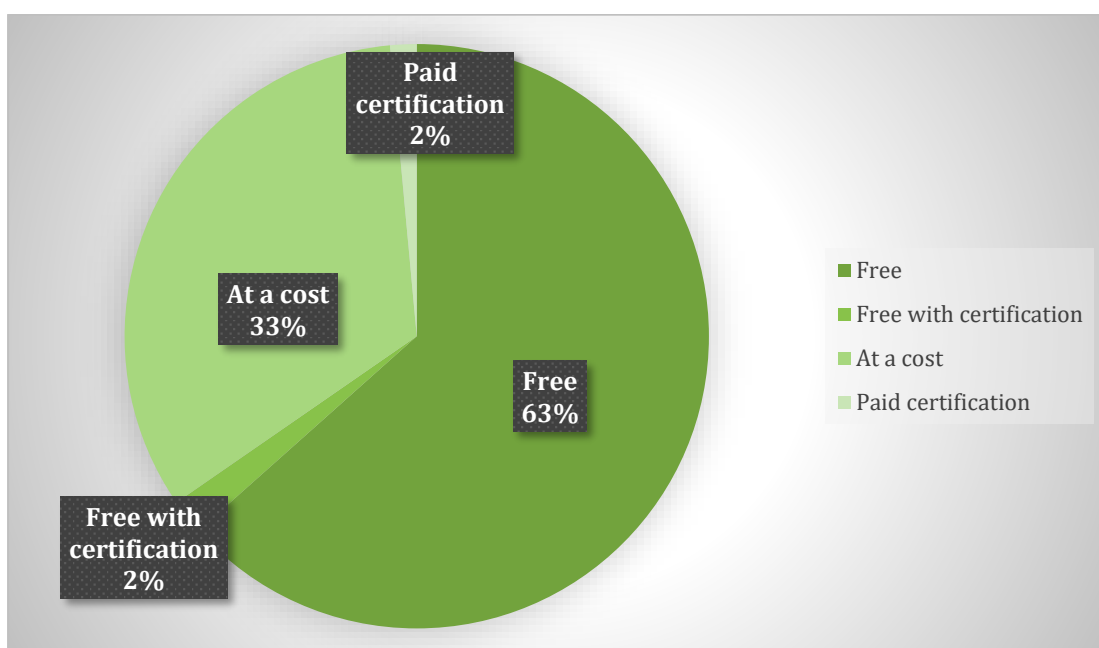


Figure 10: Resource costs

As table 12 and image 10 illustrate, most resources in the catalogue are free, and in English. Furthermore, 92.2% of materials featured are open access or open access with some type of sign-up required. Only certified courses, PhD and Master programs have access criteria and requirements, so in a general sense, most of the knowledge shared in this document is widely accessible to a general audience – even if a small fee is required in some cases. Regardless of these accessibility concerns, the truth is that some populations harder to reach – low income, low skilled, and ageing segments – which may still be secondary impacted by increasing the knowledge levels of health care professionals and informal carers.

Finally, some notes regarding the sources of the resources need to be added. By source it is generally meant the categorization of the main organization responsible for funding the development of the materials – and not the platforms where they are hosted. European sources, mainly those funded by EC funds, were valued – for instance, the Erasmus+ and EIT programs, as already discussed in the methodology chapter. But, whenever relevant to a specific topic, or re-directed by EU projects that host their courses in external platforms, other sources were used. See image 11 for a breakdown of these sources, categorized:

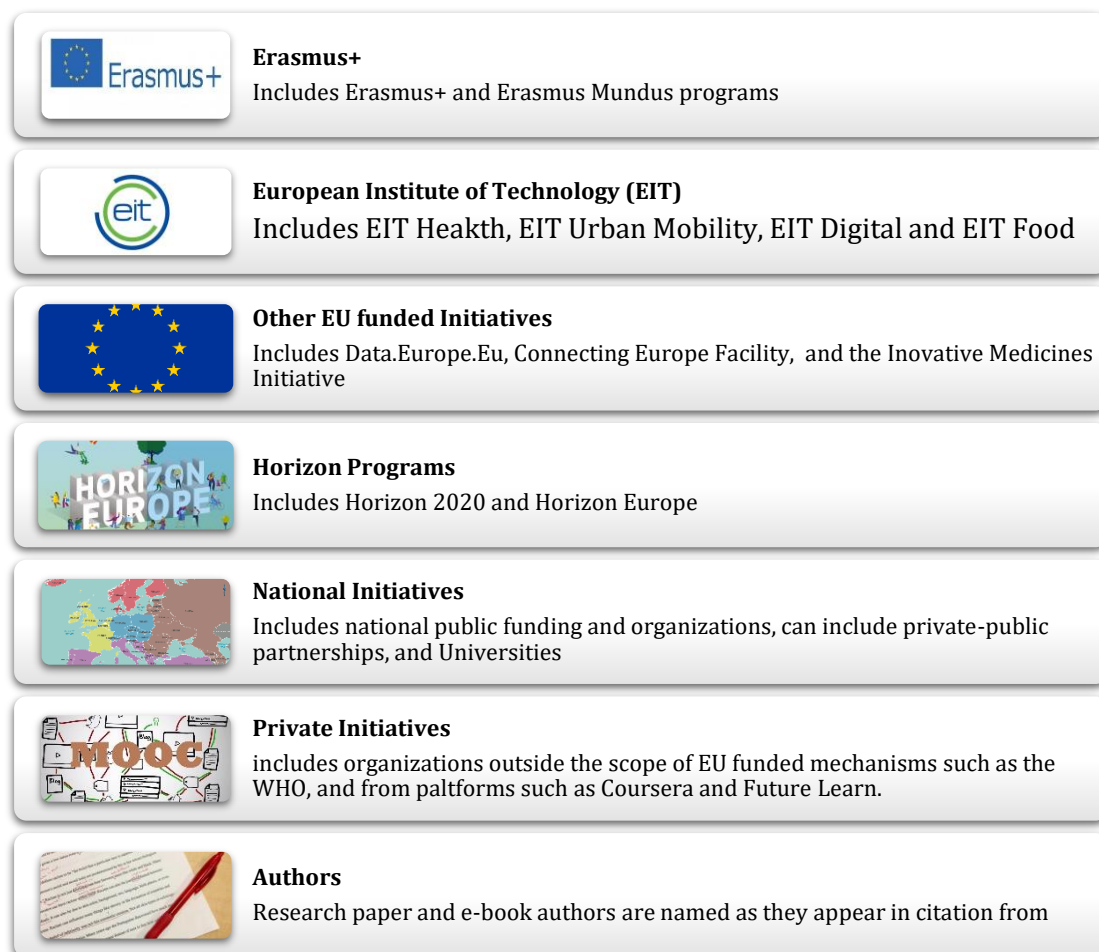


Figure 11: Main funding frameworks for the selected resources

The designation of “source” for the purposes of this catalogue means the main sponsoring institution behind the development of resource, not its hosting platform, or individual authors.

Table 13: Resource distribution by source (n=189)

Resource types	n	%
Erasmus+	48	25.4

European Institute of Technology	26	13.7
Other EU funded Initiatives	10	5.3
Horizon Programs	14	7.4
National Initiatives	30	15.9
Private Initiatives	50	26.4
Authors	5	2.6

As expected, the number of national and privately funded initiatives outweighs the offer collected from EU funded sources, in this catalog.

Guide – How to use this Catalogue

SHIFT-Hub's catalogue of educational resources was built around two major axes:

- **Themes**
- **Descriptors**

Hence, this resource can be used to find educational contents on a specific subject or find knowledge targeting specific stakeholder segments. For instance, if interested in learning more about Artificial Intelligence, search for "themes", or if looking for materials on improving health literacy for users, search for "descriptor" keywords.

Themes

The catalog features a selection of online materials on the following topics:

- Artificial Intelligence
- Cybersecurity
- Big Data
- Data Governance
- Digitalization
- Digital Health
- Entrepreneurship
- Healthcare service organization
- Health literacy and disease management for users
- ICT skills for users
- Humanities in Health care and in the Digital World
- Scaling up models.
- Soft Skills for Health Care Professionals and Informal Carers
- Scientific frameworks in Human Health
- Urbanization and Health Care

Themes are the backbone of the catalogue's organizational structure. Each resource is primarily assigned to a theme, followed by descriptor hashtags to improve searchability and a basic level of filtering.

Descriptors

Each educational resource under a specific theme organized in different categories to help learners identify if a specific entry fits their preferences. There are 7 descriptor categories that have already been discussed in some detail in the previous chapter: type, access, pricing, certification, source, target audience and language. A hashtag character (#) has been added to all descriptors, hence learners **can press "ctrl + f" on Windows or "cmd + f" on a Macbook device and "copy + paste" the desired descriptor hashtag to search more specific results.**

SEARCH TAGS	
TYPE	SOURCE
<ul style="list-style-type: none"> • #Online learning platform • #E-Book • #App • #Report • #Scientific publication • #Video • #Master Program 	<ul style="list-style-type: none"> • #Data.Europe.Eu • #Erasmus+
ACCESS	
<ul style="list-style-type: none"> • #Reserved (requirements needs to meet to access the resource) • #Open access • #Open access (requires sign-up) 	<ul style="list-style-type: none"> • #EIT Digital • #EIT Food • #EIT Health • #EIT Urban Mobility • #Horizon Europe • #Horizon 2020 • #IMI • #Private Initiative • #National Initiative
PRICING	TARGET AUDIENCE
<ul style="list-style-type: none"> • #Free • #Free (paid certification) • #At a cost (platform subscription fee or individual access fee) 	<ul style="list-style-type: none"> • #Health care professionals • #Informal carers • #Students • #Companies • #Trainers • #Researchers • #General Population
CERTIFICATION	
<ul style="list-style-type: none"> • #With certification (includes certificates of achievement, completion, and scholar degrees) • #No certification 	

Content of the Catalogue

Artificial intelligence

Title	AI for Healthcare: Equipping the Workforce for Digital Transformation
Link	https://www.futurelearn.com/courses/artificial-intelligence-in-healthcare
Type	#Online learning platform
Access	#Open access
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Health care professionals
Language	#English
Objectives	<p>Learn how artificial intelligence is transforming healthcare, and how it could support the work of healthcare professionals.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe the benefits and challenges of Artificial Intelligence (AI) in healthcare across the broader spectrum of the health sector • Explore the concepts, ethical principles and approaches of AI within healthcare • Investigate the challenges and opportunities of data in healthcare to transform patient care • Explore the roles, teams and skills required to enable AI in healthcare • Apply learning to authentic and practice-based case studies which look at a range of applications of AI • Develop current practice, skills and knowledge to support recommendations from the Topol Review.

Title	AI and Big Data in Global Health Improvement
Link	https://www.futurelearn.com/courses/ai-and-big-data-global-health-improvement
Type	#Online learning platform

Access	#Open access #At a cost
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Health care professionals #Students #Researchers
Language	#English
Objectives	<p>Discover how data sharing in the healthcare sector has the potential to improve medical outcomes all over the world.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe how big data can improve the quality of healthcare in global pandemics. • Explore how big data and artificial intelligence can play a vital role in global health improvement and study trials. • Apply using big data and artificial intelligence to build new globally standardized methodologies to improve healthcare. • Improve healthcare quality and patient safety using massive observational health data and artificial intelligence techniques.

Title	Artificial Intelligence (AI) In Healthcare: Opportunities and Challenges
Link	https://www.futurelearn.com/courses/artificial-intelligence-for-healthcare-opportunities-and-challenges
Type	#Online learning platform
Access	#Open access #At a cost
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Health care professionals
Language	#English

Objectives	<p>Explore how the use of artificial intelligence is increasing in healthcare and the challenges and opportunities this presents.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Demonstrate the understanding and knowledge regarding to the needs of AI in healthcare • Describe the possibilities of applications of AI to healthcare • Explore methods to overcome the challenges of AI in the healthcare domain; and ways in which AI will support and assist towards better healthcare
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Title	Artificial Intelligence for your business idea
Link	https://e4you.org/es/moocs/artificial-intelligence-your-business-idea
Type	#Online learning platform #App
Access	#Open access
Price	#At a cost
Certification	#No certification
Source	#National initiative
Target audience	#General public
Language	#English
Objectives	<p>Learn how to make money and solve dilemmas when starting a new business, using best practices from global companies. Learn how to make decisions about employment, where and how to invest, selling, pricing & profitability. All sessions taught by a Vice President, CFO, with a career at Fortune 500 companies, based on the class he teaches at NYU (New York University). No Finance knowledge required. Each session can be watched separately.</p>

Title	Artificial intelligence... with intelligence!
Link	https://www.fun-mooc.fr/en/courses/lintelligence-artificielle-avec-intelligence/
Type	#Online learning platform

Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#National initiative
Target audience	#General public
Language	#French
Objectives	<p>Class'Code IAI is a citizen MOOC accessible to all from 7 to 107 years old to question, experiment and understand what Artificial Intelligence is... with intelligence!</p> <p>At the end of this course, you will be able to:</p> <ul style="list-style-type: none"> • decipher the discourse around AI to move from preconceived ideas to questions on which to rely to understand, • manipulate AI programs to form an opinion for oneself, • share a minimal culture on the subject, to become familiar with the subject beyond preconceived ideas, • discuss the subject, its applications, its framework with various interlocutors to contribute to the construction of AI applications

Title	BioMed-AI Summer School
Link	https://youtu.be/I59fr65MyeA ; https://biomedai-summerschool.gr/
Type	#Video
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National initiative
Target audience	#General public, #Health care professionals, #Students #Researchers
Language	#English
Objectives	The Summer School aims to connect biomedical research and healthcare with Ethics and Responsive Innovation in the era of the

	<p>4th Industrial Revolution, ushering Biomedicine & Big Data through the A.I. threshold. This initiative has the following objectives: 1) Provide a strong foundation in AI applications in medicine and healthcare, their ethical concerns, ELSI in biomedical issues and RRI which are relevant to the different areas of scientific and clinical research, 2) Enhance researchers' ability to conceptualize, analyze and solve research problems with increasing independence, 3) Enhance researchers' ability to conceptualize, analyze and solve research problems with increasing independence, 4) Significantly expand researchers' understanding of theory and practice related to summer school topics, 5) Provide researchers with appropriate instruments to make effective research in the field of AI, ELSI in biomedicine, and RRI compliant with international standards.</p>
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Title	eXplainable Artificial Intelligence in healthcare Management (xAIM)
Link	https://xaim.eu/masters-programme/
Type	#Master Program
Access	#Reserved
Price	#At a Cost
Certification	#With Certificaton
Source	#Connecting Europe Facility
Target audience	#Health care professionals, #Students, #Researchers
Language	#English
Objectives	<p>xAIM is an online Master's program funded by the European Union that focuses on Explainable Artificial Intelligence in healthcare management. It offers interdisciplinary training in Data Science, AI, and healthcare, teaching Machine Learning and Data Science fundamentals. The program emphasizes understanding healthcare concepts and ethical considerations. Admission requires a relevant Bachelor's degree, and applications are open until June 30, 2022. It's developed by four universities: University of Pavia, Goethe University, Keele University, Leibniz University Hannover, and the University of Ljubljana. For more details, visit the xAIM project website.</p>

Title	Institut Montaigne Destination AI Massive Open Online Course
Link	https://openclassrooms.com/en/courses/7078811-destination-ai-introduction-to-artificial-intelligence
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#With certification
Source	#National initiative
Target audience	#Students
Language	#English
Objectives	1) Construct a definition of artificial intelligence; 2) Discover the societal impact of artificial intelligence; 3) Describe the inner workings of an AI engineering project.

Title	HelloAI Advanced RIS course
Link	https://hvl.thinkific.com/courses/helloai-advanced-ris
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Students, #Health care professionals
Language	#English
Objectives	Does ML and AI still remain a black box to you? AI has the power to help medical experts in diagnosing patients by analysing symptoms, automating operational and administrative tasks, suggesting personalized treatments, and predicting risk. To foster

	<p>the adoption of AI in Healthcare clinicians need to be fully immersed and trained to get its true benefit.</p> <p>47% of physicians and 73% of medical students said that they are currently seeking out additional training or classes to better prepare themselves for innovations in healthcare expecting almost one-third of their job to be automated by 2040 - according to the Stanford Medicine Report.</p> <p>The HelloAI Advanced course highlights various medical aspects where AI can be applied and solve a wide range of challenges with several impactful practical examples from acceleration and innovation to first-hand experiences of real clinical implementations. The course includes technical exercises to deep dive into AI and introduced digital platforms that enable innovation, development, and storage of data while providing security and data privacy. HelloAI Advanced also pays high attention to patient perception: how AI can make healthcare human again by freeing up time for clinicians to interact with their patients on a human level.</p>
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Title	HelloAI Alumini Professional course
Link	https://hvl.thinkific.com/courses/helloai-alumni
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Health care professionals
Language	#English
Objectives	Do you want to know more about AI and its current and future application opportunities in a medical setting? HelloAI Professional is the first and only course that, in just a few weeks, will educate experts in the context of AI technology and how that helps improve the lives of patients, ease the work of medical professionals and open new opportunities for entrepreneurs.

Title	HelloAI Basics course
Link	https://hvl.thinkific.com/courses/helloai-basics
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Students
Language	#English
Objectives	<p>Welcome to HelloAI - General Information</p> <ul style="list-style-type: none"> HelloAI Welcome Brochure How to access your ECTS credit How to access your EITH certificate <p>Module 1 Global overview: AI in Healthcare</p> <ul style="list-style-type: none"> 1.1 - AI, Personalized medicine and rethinking design 1.2. - Radiology powered by AI <p>Module 2 Operationalize AI</p> <ul style="list-style-type: none"> 2.1. - Outlook: Start-up journey and acceleration, professional speech is important 2.2 - From scientific idea to product - A startup journey 2.3. - Introduction of LEITAT Technology Center 2.6 - Digital Transformation of Health System – example of Estonia 2.7 - Digital healthcare innovation challenges – IT Infrastructures – patient centered vs Big Data enabling <p>Module 3 AI innovation in HCP organization</p> <ul style="list-style-type: none"> 3.1. - Introducing AI solution in your Healthcare Provider organization 3.4. - Secure operations verification 3.6. - Introduction of KTH

	<p>Module 4 Deep dive in AI</p> <p>4.1. - Why Data handling, preparing and distributed machine learning are needed?</p> <p>Module 5 Scaling AI solutions on a global platform</p> <p>5.1. - How Artificial Intelligence is making health care more human</p> <p>5.2. - You need a platform: Edison Digital Platform as start-up co-development model</p> <p>5.3. - Follow my patient AI based solution in a HCP</p> <p>5.4. - Value and benefits in providing a futuristic scalable roadmap for AI applications</p> <p>Module 5 - Quiz 1 - Introduction Edison orchestrator</p> <p>5.5. - Unlock data and unleash intelligence, effortlessly</p> <p>5.6 - GUIDE: EHS tutorial</p> <p>Module 5 - Quiz 2 - EHS tutorial</p>
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Title	HelloAI Professional RIS course
Link	https://hvl.thinkific.com/courses/helloai-pro-ris
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Health care professionals
Language	#English
Objectives	HelloAI Professional RIS focuses on advanced AI concepts and how to apply customized solutions with various tools and methodologies. Students will progress in powerful ways to scale up AI solutions and the best ways to present them to healthcare organizations.

	<p>The EIT Health labelled programme combines theoretical presentations about AI with hands-on practical workshops.</p> <p>Join this course to learn about fascinating and challenging AI topics that you may have heard of before but never had the chance to educate yourself professionally to further excel in your career.</p> <p>HelloAI Professional has multiple video lectures, quizzes and a lab test - all of which can be completed at students' own pace. However, there will be opportunities to join LIVE ONLINE EVENTS - 2023 May, June, September, October and November- recordings of the events are available later as part of the programme.</p>
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Title	How Artificial Intelligence Can Support Healthcare
Link	https://eithealth.eu/programmes/aiprohealth-online/ https://www.futurelearn.com/courses/how-artificial-intelligence-can-support-healthcare
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Health care professionals
Language	#English
Objectives	<p>To explore how AI can be used to improve patient care and build your understanding of how to implement AI in the health professions.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explain the fundamentals of AI and its use in healthcare-based use-cases. • Identify the requirements of implementation of AI in a clinical environment. • Describe the impact of implementation of AI in a clinical environment. • Evaluate the challenges and risks of AI in Healthcare.

	<ul style="list-style-type: none"> Discuss about AI and its use in healthcare in a practical and meaningful way.
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Title	Introduction to Artificial Intelligence
Link	https://www.simplilearn.com/learn-ai-basics-skillup
Type	#Online learning platform
Access	#Open access (requires sign-up) # Free with certification
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#General population
Language	#English
Objectives	DSJP presents a Simplilearn course that offers a free 2-hour self-paced course introducing the basics of Artificial Intelligence (AI). It covers supervised and unsupervised learning, deep learning and machine learning workflows, semisupervised learning, and the purpose of AI. Participants need basic Python and statistics knowledge, with 90 days of free access. Upon completion, learners receive a certificate and can explore more advanced courses like Artificial Intelligence, AI, and ML Certification, and Master in Artificial Intelligence.

Title	Machine Learning Skills for ICT professionals
Link	https://www.openlearning.com/courses/machine-learning-skills-for-ict-professionals/?cl=1 https://erasmus-plus.ec.europa.eu/projects/search/details/2020-1-FR01-KA202-080386
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification

Source	#Erasmus+
Target audience	#General population
Language	#English
Objectives	<p>Learning Unit 1: ML essentials for ICT professionals</p> <p>Lesson 1: Introduction to ML</p> <p>Lesson 2: Where to apply ML</p> <p>Lesson 3: Machine Learning and Data processing</p> <p>Lesson 4: Example ML applications</p> <p>Learning Unit 2: Mathematical Foundations</p> <p>Lesson 1: Set, Functions, Relations</p> <p>Lesson 2: Linear Algebra</p> <p>Lesson 3: Probability Theory</p> <p>Lesson 4: Statistics</p> <p>Lesson 5: Computation theory</p> <p>Learning Unit 3: ML Algorithms, Programs, and Protocols</p> <p>Lesson 1: Machine Learning by linear models</p> <p>Lesson 2: Supervised learning</p> <p>Lesson 3: Unsupervised learning</p> <p>Lesson 4: Semi-supervised learning</p> <p>Lesson 5: Programming languages and frameworks for Machine Learning algorithms</p> <p>Lesson 6: Best practices for ML</p> <p>Learning Unit 4: Deep Learning (Advanced)</p> <p>Lesson 1: Multilayer Perception (MLP)</p> <p>Lesson 2: Convolutional Neural Networks (CNN)</p> <p>Lesson 3: Recurrent Neural Networks (RNN)</p> <p>Lesson 4: Autoencoders (AE), Restricted Boltzmann Machines (RBM)</p> <p>Learning Unit 5: Communicating the merits, challenges, and implications of Machine Learning technology to customers and within own organization</p> <p>Lesson 1: Introduction to communication and ML involvement</p> <p>Lesson 2: Types, levels, components of effective communication and ways for using Machine Learning in Communications</p> <p>Lesson 3: The future of communication in accordance with artificial intelligence</p>

	<p>Lesson 4: The effects of artificial intelligence in communication</p> <p>Learning Unit 6: Legislation, Ethics, Project Management related to ML</p> <p>Lesson 1: EU guidelines on ethics in artificial intelligence</p> <p>Lesson 2: Data Value/Costs Model</p> <p>Lesson 3: Bias in Machine Learning</p> <p>Lesson 4: Software engineering for AI applications</p>
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Title	Master in Human Centered Artificial Intelligence (HCAIM)
Link	https://humancentered-ai.eu/
Type	#Masters Program
Access	#Reserved
Price	#At a cost
Certification	#With certification
Source	#Connecting Europe Facility (CEF)
Target audience	#Students
Language	#English
Objectives	<p>The Master in "Human Centred Artificial Intelligence" (HCAIM) is a newly funded EU program, developed by a consortium of academic and industry experts from three excellence centers, three SMEs, and four universities. Students can enroll in one of four universities: Technological University of Dublin, HU University of Applied Sciences Utrecht, University of Naples "Federico II," and Budapest University of Technology and Economics. The program focuses on responsible AI development and addressing societal challenges. Applicants should have a relevant Bachelor's degree.</p>

Title	Some Note on Artificial Intelligence
Link	https://link.springer.com/chapter/10.1007/978-981-13-8950-4_1
Type	#Scientific publication
Access	#Open access

Price	#Free
Certification	#No certification
Source	Smart Innovation, Systems and Technologies
Authors	Anna Esposito, Marcos Faundez-Zanuy, Francesco Carlo Morabito, Eros Pasero
Target Audience	#Health care professionals, #General Population
Language	#English
Objectives	This introductory chapter discusses about some basics of artificial intelligence, and in particular on some theoretical issues concerning neural networks that are still open problems and need further investigations. This is because, independently of the large use of neural networks in several fields, using neural networks and similar artificial intelligence techniques to solve problems of non polynomial complexity is by itself a creative and intelligent problem, not rigidly tied to procedural methods and fully explainable on theoretical bases.

Big Data

Title	Big Data, Artificial Intelligence, and Ethics MOOC
Link	https://www.coursera.org/learn/big-data-ai-ethics
Type	#Online learning platform
Access	#Open access (paid certification)
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Students #General population
Language	#English
Objectives	This course gives context and first-hand experience with the two major catalyzers of the computational science revolution: big data and artificial intelligence. With more than 99% of all mediated information in digital format and with 98% of the world population using digital technology, humanity produces an impressive digital

	<p>footprint. In theory, this provides unprecedented opportunities to understand and shape society. In practice, the only way this information deluge can be processed is through using the same digital technologies that produced it. Data is the fuel, but machine learning is the motor to extract remarkable new knowledge from vast amounts of data. Since an important part of this data is about ourselves, using algorithms in order to learn more about ourselves naturally leads to ethical questions. Therefore, we cannot finish this course without also talking about research ethics and about some of the old and new lines computational social scientists have to keep in mind. As hands-on labs, you will use IBM Watson's artificial intelligence to extract the personality of people from their digital text traces, and you will experience the power and limitations of machine learning by teaching two teachable machines from Google yourself..</p>
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Title	Erasmus Mundus Master in Big Data Management and Analytics
Link	https://bdma.ulb.ac.be/
Type	#Masters Program
Access	#Reserved
Price	#At a cost
Certification	#With certification
Source	#Erasmus Mundus
Target audience	#Students
Language	#English #Polish #Bulgarian #Ukrainian #Serbian
Objectives	<p>The Erasmus Mundus Master's program in Big Data Management and Analytics (BDMA) is offered by a consortium of five universities. It focuses on equipping students with data management and analytics skills in a business context, fostering decision-making strategies. The program spans two years, with mobility options and three specialization tracks. Each semester covers specific courses and emphasizes both technical and ethical aspects of big data. Prospective students need a Bachelor's degree in computer science from an accredited university and English language proficiency at level B2. The program encourages internships and culminates in a master's thesis defense.</p>

Title	iBIGworld
Link	https://projects.unibit.bg/course/index.php?categoryid=14
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies, #Students
Language	#English #Polish #Bulgarian #Ukrainian #Serbian
Objectives	<p>iBIGworld is focused on identifying and ways to use Big Data as raised from via the internet, including social networks, web search requests, text messages, media files and data created by IoT devices and sensors, to help Higher Education Institutes (HEIs) follow the rapid pace of emerging industries.</p> <p>The project aims at developing common EU competences for Big Data management skills concerning the SMEs sector, thus meeting the labour market needs of skill shortages and gaps in all sectors. At the same time the project is aimed at improving the relevance of learning provision regarding Big Data management in SMEs in order to meet the cyber market's needs in the economy.</p> <p>iBIGworld foresees the development new curriculum, related to the use of Big Data to enhance the quality of management of modern ecosystems. In this way, the students will be enhancing their knowledge through the use of IT tools and by sharing aspects of training on Big Data management skill issues, and by doing so improving accessibility for everyone.</p>

Title	Health Analytics and Big Data in Health (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=5
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification

Source	#Erasmus+
Target audience	#Students
Language	#English
Objectives	This course has the general objective to instruct students on the fundamental concepts of health analytics and big data, enabling students with full comprehension and critical attitude on the complex process of the current data science field of work - that is the base for decision-making in health

Cybersecurity

Title	C-Academy
Link	https://www.cncs.gov.pt/en/c-academy/
Type	#Online learning platform
Access	#Open access
Price	#At a cost
Certification	#No certification
Source	#National initiative
Target audience	#Companies #Students
Language	#English #Portuguese
Objectives	The C-Academy is an advanced training programme in cybersecurity for public administration and the private sector developed by the Portuguese National Cybersecurity Centre following the Recovery and Resilience Plan. This programme aims to: 1) Qualify and requalify human resources in accordance with the Cybersecurity Skills Benchmark; 2) Provide content and training in line with the National Cybersecurity Framework (QNRCS); 3) Converge with the Digital Innovation HUBs; 4) Achieve a geographical distribution that allows covering the whole national territory; 5) To reach at least 9800 trainees until the first quarter of 2026 in partnership with the Educational Institutions. Distributed in different levels of demand and in an online, face-to-face or mixed format, the C-Academy will offer approximately 44 training courses, with classes ranging from 15 to 40 elements. This extensive training offer allows C-Academy to provide training in

	several relevant areas in the current and future panorama, demonstrating resilience and sustainability.
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Title	Academia Nacional de CiberSegurança
Link	https://www.anciber.pt/
Type	#Online learning platform
Access	#Open access
Source	#National initiative
Price	#At a cost
Certification	#With certification
Target audience	#Companies #Students
Language	#Portuguese
Objectives	The Academia Nacional de Cibersegurança in Portugal (ANCIBER) offers specialized cybersecurity training tailored to the country's needs. With experienced instructors and a hands-on approach using real-world attack and defense scenarios, ANCIBER equips individuals, including those without IT backgrounds, with cybersecurity skills in an intensive 8-month program. The academy assists graduates in finding job opportunities and aims to strengthen Portugal's cybersecurity landscape while ensuring national cyber sovereignty.

Title	Cybersecurity integrated course program
Link	https://www.coursera.org/specializations/cyber-security
Type	#Online learning platform
Access	#Open access
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Companies #Students

Language	#English
Objectives	The Cybersecurity Specialization covers the fundamental concepts underlying the construction of secure systems, from the hardware to the software to the human-computer interface, with the use of cryptography to secure interactions. These concepts are illustrated with examples drawn from modern practice, and augmented with hands-on exercises involving relevant tools and techniques. Successful participants will develop a way of thinking that is security-oriented, better understanding how to think about adversaries and how to build systems that defend against them.

Title	Cylander's free cybersecurity courses for all
Link	https://cylander.org/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private initiative
Target audience	#Companies #Students
Language	#English
Objectives	Cylander is committed to democratizing cybersecurity education by offering free courses for learners of all backgrounds. Their courses are designed with plain language and presented in various formats, including videos and infographics. They stay up-to-date with cybersecurity trends and provide practical, interactive learning experiences. Cylander offers specialized training profiles, including Secure Development, Hacking Web & API, Infra & Ops, and OWASP, catering to different learning needs in the field.

Title	Criptocert – certified crypto analyst
Link	https://www.criptocert.com/index.html#cert-analyst-training
Type	#Online learning platform

Access	#Open access
Price	#At a cost
Certification	#With certification
Source	#National initiative
Target audience	#Companies
Language	#Spanish
Objectives	<p>CriptoCert's professional technical certifications aim to spread the use of cryptography and its practical use, which is known as applied cryptography. The basis of cryptography is mathematics, and although the certifications delve into the mathematical concepts and principles necessary to understand the operation of multiple cryptographic systems and protocols, and how to apply cryptography in a practical way in numerous scenarios, these principles that sometimes generate concern or distance potential candidates, will not prevent the use of these certifications. Although the world needs mathematicians, and of course also needs cryptographers, above all it needs more people who understand how to use cryptography in real environments.</p>

Title	Cyber Threat Management
Link	https://skillsforall.com/course/cyber-threat-management?courseLang=en-US
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#With certification
Source	#Private Initiative
Target audience	#General Population
Language	#English #French #Spanish #Portuguese
Objectives	<p>Develop advanced knowledge that you will use in the workplace as a Cybersecurity Technician. This course explores governance in cybersecurity and threat management. Learn to develop policies and ensure your organization complies with ethics standards and</p>

	<p>legal and regulatory frameworks. You will also gain skills for managing threats, such as how to assess a network for vulnerabilities, manage risks, and respond to security incidents.</p> <p>Modules: Module 1: Governance and Compliance, Module 2: Network Security Testing, Module 3: Threat Intelligence, Module 4: Endpoint Vulnerability Assessment, Module 5: Risk Management and Security Controls, Checkpoint Exam: Vulnerability Assessment and Risk Management, Module 6: Digital Forensics and Incident Analysis and Response, Checkpoint Exam: Incident Response, Cyber Threat Management (CyberTM) Course Final Exam</p>
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Title	Defining & Doing Cyber Intelligence - CYBINT
Link	https://e4you.org/es/moocs/defining-doing-cyber-intelligence-cybint
Type	#Online learning platform #App
Price	#Free
Certification	#No certification
Access	#Open access
Source	#National initiative
Target audience	#Companies #Students
Language	#English
Objectives	<p>With a focus on the key content that it communicates, this course begins by, firstly, defining 'Cyber Intelligence' (CYBINT), together with outlining the 'rationale' for CYBINT, such as for Cyber Security purposes. Secondly, the course examines how CYBINT work can be structured, with an emphasis on the 'factors to consider', CYBINT 'dimensions', then moving to a focus on the processes of 'prioritisation' and 'sense- to decision-making'. Thirdly, the course concentrates on the 'doing' of CYBINT, advancing System-of-Systems Dynamics (SoSD) concepts, for example, PMESII as harnessed by entities such as the North Atlantic Treaty Organisation (NATO). Fourthly, CYBINT-relevant Intelligence Engineering (IE) pathways forward are introduced, before, fifthly, coming to some overall course conclusions & takeaways. Those last qualities include greater consideration that in CYBINT enterprises: (i) 'The whole equals more than sum of (individual) parts'; extending to (ii) the position that we are moving conditions and situations 'From "wait & watch" to "see & strike"' operationally up and across to strategically; as well as (iii) that 'Situational Awareness remains key overall'.</p>

Title	Endpoint Security
Link	https://skillsforall.com/course/endpoint-security?courseLang=en-US
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#With certification
Source	#Private Initiative
Target audience	#General Population
Language	#English #French #Spanish #Portuguese
Objectives	Gain the foundational knowledge you will use in the workplace as a Cybersecurity Technician. Each day billions of devices are connected to the network, and each one needs to be protected. Build the skills to secure your network all the way to the edge, including hardware, software, and media. In this course, you will learn how to assess the network, operating systems, and endpoints for vulnerabilities, and how to secure the network. You will also gain skills to maintain the integrity, confidentiality, and availability in your network and your data. Modules: Module 1: Cybersecurity Threats, Vulnerabilities, and Attacks, Module 2: Securing Networks, Module 3: Attacking the Foundation, Module 4: Attacking What We Do, Module 5: Wireless Network Communication, Module 6: Network Security Infrastructure. Checkpoint Exam: Network Security, Module 7: The Windows Operating System, Module 8: Linux Overview, Module 9: System and Endpoint Protection, Module 10: Cybersecurity Principles, Practices, and Processes, Checkpoint Exam: OS and Endpoint, Endpoint Security (ESec) Final Exam

Title	Internet of Things security nuggets
Link	https://projects.unibit.bg/course/view.php?id=44
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification

Source	#Erasmus+
Target audience	#Companies, #Students
Language	#English
Objectives	<p>The aim is to prepare specialists in data and security protection within the IoT ecosystem based on new approach of "learning nuggets" for fast and on-demand learning.</p> <p>The specific goals supporting it are:</p> <ul style="list-style-type: none"> • development of a framework for qualification of new technical experts in IoT cybersecurity • equipping VET learners and trainers with methodological guidance, tools, and instruments for training in IoT security • develop and try out a CPD course for testing and further use • support entrepreneurs to start a business in the IoT ecosystem • develop an innovative model for learning - "learning nuggets"

Title	Introduction to Cybersecurity
Link	https://skillsforall.com/course/introduction-to-cybersecurity?courseLang=en-US
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#With certification
Source	#Private Initiative
Target audience	#General Population
Language	#English #French #Spanish #Portuguese #German
Objectives	<p>This introductory course takes you inside the world of cybersecurity. You will learn cybersecurity basics to protect your personal digital life and gain insights into the biggest security challenges companies, governments, and educational institutions face today. Cybersecurity professionals who can protect and defend an organization's network are in high demand. Modules: Module 1: Introduction to Cybersecurity, Module 2: Attacks,</p>

	Concepts and Techniques, Module 3: Protecting your Data and Privacy, Module 4: Protecting the Organization, Module 5: Will Your Future Be in Cybersecurity?, Introduction to Cybersecurity: Course Final Exam
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Title	Information Security Handbook: A Guide for Managers
Link	https://nvlpubs.nist.gov/nistpubs/Legacy/SP/nistspecialpublication800-100.pdf
Type	#e-Book
Access	#Open Access
Price	#Free
Certification	#No certification
Source	National Institute of Standards and Technology (NIST)
Authors	Pauline Bowen , Joan Hash , Mark Wilson
Target audience	#Companies
Language	#English
Objectives	The Information Security Handbook provides a broad overview of information security program elements to assist managers in understanding how to establish and implement an information security program.

Title	i~HD e-Learning Hub: GDPR and IG Tutorials
Link	https://academy.i-hd.eu/course/index.php?categoryid=9
Type	#Online learning platform
Access	#Open access (requires sign-up) #At a cost
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Companies

Language	#English
Objectives	This program offers an exclusive insight into the General Data Protection Regulation's impact on health data driven research and innovation as experienced by experts from across the health innovation sector. The speakers, working in the legal, ethical, ICT, data management and patient representative professions, will share their knowledge and experience on key aspects of data protection in the field of healthcare innovation. They will discuss and explore practical experience and solutions, best practices and approaches for compliance, data breach management, failures and prosecutions, meaningful public engagement, security, novel technologies and forthcoming regulation (including the AI Regulation and Data Governance Act) and more.

Title	National Ph.D. program in Cybersecurity (Ph.D.-CySec)
Link	https://www.imtlucca.it/en/educational-offerings/phd-programs/national-phd-program-cybersecurity
Type	#PhD program
Access	#Reserved
Price	#At a cost
Certification	#With certification
Source	#National Initiative
Target audience	#Students
Language	#Italian
Objectives	The IMT School for Advanced Studies Lucca is accepting applications for its national PhD program in Cybersecurity (Ph.d.-CySec) for the 2023/2024 academic year. This program, funded by NextGenerationEU, aims to train scholars and decision-makers in cybersecurity to enhance digital infrastructure resilience. It offers four specialization tracks and takes an interdisciplinary approach. The program spans three years, starting on December 1, 2023, and offers 30 scholarships, each worth 16,243 euros per year. The language of instruction is English.

Title	REDucing the CYBERsecurity Management Skills Gap in SMEs
Link	https://projects.unibit.bg/course/index.php?categoryid=16
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies, #Students
Language	#English #Latvian #Turkish #Italian #Bulgarian
Objectives	<p>Small and medium-size enterprises are only now beginning to realize the seriousness of these attacks. However, they still believe that their company is not really valuable in the eyes of criminals and that the chances of becoming a victim of this crime are quite low. And here they are mistaken - SMEs can become an indirect victims of an attack, they can be used as a tool for a</p> <p>larger scale crime. The aim of this project is not only to remind companies of this, but also to offer a free opportunity to explore valuable resources that would increase their awareness, insight and raise or develop new competencies in cybersecurity</p>

Title	IT Cyber Security Training Bundle
Link	https://www.openstudycollege.com/courses/it-cyber-security-training-bundle
Type	#Online learning platform
Access	#Open access (requires sign-up) #At a cost
Price	#At a cost
Certification	#With certification
Source	#National initiative
Target audience	#General population
Language	#English

Objectives	1) Understand the components for the three different systems: CISM, CISS and CISA, 2) Learn how to develop, implement and manage a Certified Information Security Program (CISM), 3) Develop your knowledge of the Certified Software and Security Architecture (CISS), 4) Study the Certified Information Systems Auditor (CISA).
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Title	Rewire – cybersecurity skills alliance
Link	https://rewireproject.eu/online-courses/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#With certification
Source	#Erasmus+
Target audience	#Companies
Language	#English
Objectives	Small and medium-size enterprises are only now beginning to realize Cybersecurity is an indispensable aspect of digitization. The Cybersecurity Skills Alliance – New Vision for Europe – REWIRE project develops a Blueprint for the Cybersecurity industry and a concrete European Cybersecurity Skills Strategy. It brings together 25 partners from academia and VET, cybersecurity industry, non-cyber industries, certification partners and umbrella organizations. Its work builds upon four pilot projects: CONCORDIA, SPARTA, ECHO, CyberSec4Europe implemented with the support of the European Union's Horizon 2020 research and innovation programme.

Title	Site Security Handbook
Link	https://www.rfc-editor.org/rzfc/pdf/rfc/rfc2196.txt.pdf
Type	#e-Book
Access	#Open access
Price	#Free

Certification	#No certification
Source	Network Working Group
Author	B. Fraser
Target audience	#Companies
Language	#English
Objectives	This handbook is a guide to developing computer security policies and procedures for sites that have systems on the Internet. The purpose of this handbook is to provide practical guidance to administrators trying to secure their information and services. The subjects covered include policy content and formation, a broad range of technical system and network security topics, and security incident response.

Title	SecTech - Innovation and Excellence in Cyber-Security Teaching in Higher Education
Link	https://ec.europa.eu/programmes/erasmus-plus/project-result-content/5c8288b0-b87c-4817-8509-c39df89a3d81/SecTech_deliverable_-_output_1.pdf
Type	#Report
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies, #Students
Language	#English
Objectives	The project has fulfilled four objectives: (1) Jointly develop Cyber-Security related teaching and training materials at Masters and PhD level; (2) Create within each partner institution, a centre for cyber-security teaching and awareness competences with curriculum encompassing area of expertise of each partner institution.; (3) Support decision makers in the area of higher education with a set of recommendation on how to improve the quality of teaching in cyber-security; (4) Adopt an online

	collaborative and interactive tool for delivering the courses to remote students.
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Data Governance and Health Data Science

Title	Data Analytics Essentials
Link	https://skillsforall.com/course/data-analytics-essentials?courseLang=en-US
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#With certification
Source	#Private Initiative
Target audience	#General Population
Language	#English
Objectives	<p>This data analytics essentials course teaches you the fundamental tools of a data analyst. You will learn to transform, organize, and visualize data with spreadsheet tools such as Excel. You will also learn how to query data from a relational database using SQL and how to improve your data presentations using powerful business intelligence tools like Tableau. By the end of the course, you will have an analytics portfolio complete with an analysis of the popular movies dataset, showcasing your skills in Excel, SQL and Tableau.</p> <p>Modules: Module 1: Data Analytics Projects, Module 2: Getting started with Data Gathering and Investigation, Module 3: Preparing and Cleaning Data for Analysis, Module 4: Transforming Data with Excel, Module 5: Analyze the Data Using Statistics, Module 6: Introduction to Relational Databases and SQL, Module 7: Introduction to Structured Queries, Module 8: Introduction to Tableau, Module 9: Ethics and Bias in Data, Module 10: Take the Next Steps</p>

Title	Data governance guidebook
Link	https://innovation4ageing.tehnopol.ee/wp-content/uploads/2022/12/D5.3_Data-governance-guidebook_full-text_revised_nov2022.pdf
Type	#Report

Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#Companies
Language	#English
Objectives	This guide is designed first and foremost to support innovators, the providers of services in the AHA domain in deploying digital and data-driven technology for use in health and care. For this group, data management can be built into the business model and service development 'by design'. The guidebook aims to support innovators implement key principles of privacy, security, interoperability, and effectiveness in their data management practices.

Title	EUHubs4Data Training Catalogue
Link	https://euhubs4data.eu/courses/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#Students #Companies
Language	#English
Objectives	EUHubs4Data, an EU-funded project, is creating a European federation of Data Innovation Hubs, connecting with data-related entities, SME networks, AI communities, and more. It aims to boost European SME and startup involvement in the data economy. The project provides access to a European catalog of data sources and services through Data Innovation Hubs, fostering cross-border data-driven experimentation, interoperability, and contributing to common European data spaces. They have released a catalog of training courses to support individuals in acquiring skills for the

	data-driven innovation ecosystem, with filtering options by topic, country, features, language, and trainer organization.
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Title	i~HD e-Learning Hub: Health Data Quality Program
Link	https://academy.i-hd.eu/course/index.php?categoryid=5
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Private Initiative #EIT Health
Target audience	#Health Care Professionals #Students #Companies
Language	#English
Objectives	The Health Data Quality Program delivers a comprehensive series of online trainings that cover key aspects of using health data in clinical research including hospital information systems and electronic health record, data protection regulations, clinical research informatics, interoperability, as well as data quality assessment and monitoring in clinical trials. The program is designed for healthcare professionals who routinely capture health data, and for clinical research personnel who use health data to plan and execute clinical trials. The content of the program helps to understand the value of that data to the organization and to patients, for safe and effective continuity of care and for clinical research. The program has been designed by a multidisciplinary consortium supported by EIT Health.

Title	Incorporating open data into your application
Link	https://data.europa.eu/en/academy/incorporating-open-data-your-application
Type	#Online Learning platform
Price	#Free
Certification	#No certification

Source	#Data.Europe.Eu
Target audience	#General Population #Companies
Language	#English
Objectives	Are you a developer or business looking to use open data in your application? This course is for you! Our e-learning modules will teach you how to find hidden data on the web and how to use the 5 Stars of linked open data to understand the different levels of formats. Through webinars and reading materials, you can explore how open data can be used to create or enhance applications, search data with SPARQL Knowledge Graph, and much more.

Title	Introducing open data
Link	https://data.europa.eu/en/academy/introducing-open-data
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	# Data.Europe.Eu
Target audience	#General Population
Language	#English
Objectives	Are you looking to understand the concept and the benefits of open data? This course is for you! Our e-learning modules will introduce you to the concept of open data, its many benefits, and how to unlock its value in the digital age. Through webinars and reading materials, you'll explore the creative possibilities and innovation that can be achieved with open data. Moreover, we'll show you how data.europa.eu can support the use of open data for various purposes, including providing technical and legal advice, as well as real-world examples and inspirational use cases. Join us and discover the full potential of open data!

Title	Introduction to Data Science
Link	https://skillsforall.com/course/introduction-data-science?courseLang=en-US
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#With certification
Source	#Private Initiative
Target audience	#General Population
Language	#English #Spanish
Objectives	<p>This introductory course takes you inside the world of data science. You will learn the basics of data science, data analytics, and data engineering to understand how machine learning is shaping the future of business, healthcare, education, and more. Data science professionals who can provide actionable insights for data-driven decisions are in high demand all over the world.</p> <p>Modules: Module 1: Experience Analytics, Module 2: Data Collection and Storage, Module 3: Artificial Intelligence and Machine Learning, Module 4: Embarking on Your Career in Data Analytics, Introduction to Data Science Final Exam</p>

Title	Measuring the impact of open data
Link	https://data.europa.eu/en/academy/measuring-impact-open-data
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Data.Europe.Eu
Target audience	#General Population #Researchers
Language	#English

Objectives	Open data bring multiple benefits, but understanding its real is an essential action that data.europa.eu continues exploring. This course will shed light on the topic of the impact of open data. Through webinars and reading materials, you'll learn more about different methods to measure impact in Europe, the importance of reuse and best practices, the value of open data in the public and private sector, and how our research showcased in the Use Case Observatory contributes to open data impact measurement. Join us and discover how to make an impact with open data!
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Title	Improving open data and metadata quality
Link	https://data.europa.eu/en/academy/improving-open-data-and-metadata-quality
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Data.Europe.Eu
Target audience	#General Population #Researchers
Language	#English
Objectives	Want to know more about how to provide and collect good quality data and metadata? This is the course for you! Through e-learnings you'll learn how to clean data, choose the right format, and understand what makes quality open data. Our webinars and reading materials will dive into how you can unlock the benefits of open data, the role of data.europa.eu, recommended guidelines, and the opportunities and challenges of citizen-generated data. Join us and take the next step in improving open data and metadata quality.

Title	Moving towards data spaces
Link	https://data.europa.eu/en/academy/moving-towards-data-spaces
Type	#Online Learning Platform
Access	#Open access

Source	#Data.Europe.Eu
Price	#Free
Certification	#No certification
Target audience	#General Population #Researchers
Language	#English
Objectives	Data spaces aims to support data sharing across sectors, shaping our society and economy. Although they seem to be a key element in the single market of data, yet there are some elements to be defined and ongoing discussions on how this will look like in the future. This course dives into this topic, combining e-learning, webinars, reading materials and tools that will dive into the world of data sharing platforms and data spaces. Join us and discover the full potential of data spaces!

Title	Protecting Health Data in the Modern Age: Getting to Grips with the GDPR
Link	https://www.futurelearn.com/courses/protecting-health-data
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Companies
Language	#English
Objectives	<p>Learn how the GDPR helps to protect health data and get familiar with rights, obligations, risks and safeguards.</p> <p>What will you achieve?</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> Identify legal terminology as well as the legal obligations as regards health data.

	<ul style="list-style-type: none"> • Identify risks involved in processing health data, in particular in light of technological developments. • Identify the rights of data subjects as regards health data. • Explore the impact of the legal framework on new technologies used in healthcare, more specifically apps and wearables. • Investigate the possibilities of using health data for research purposes.
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Title	Sharing patient data
Link	https://openacademy.eurordis.org/courses/sharing-patient-data/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #General Population
Language	#English
Objectives	Lesson 1: Patient generated data; Lesson 2: Agreeing what outcomes to measure; Lesson 3: Data sharing within and beyond RD platforms; Lesson 5: Bioinformatic laboratory and discussion; Course 4 – Sharing patient data Quiz

Title	The Power of Data in Health and Social Care
Link	https://www.futurelearn.com/courses/data-for-health-and-care
Type	#Online learning platform
Access	#Open access (requires sign-up) #At a cost
Price	#At a cost
Certification	#With certification
Source	#Private Initiative

Target audience	#Health Care Professionals #General population
Language	#English
Objectives	<p>Discover the power of data for individuals and organisations working in health and social care.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explain the value of data science and analytics for improving health and care service design and provision • Apply key techniques for Data Collection, Preparation and Management • Describe Data Analytics Methods and Tools and their practical uses in health and social care • Apply ethical and information governance considerations • Produce and communicate meaningful insight from data analytics

Title	Understanding data governance with open data
Link	https://data.europa.eu/en/academy/understanding-data-governance-open-data
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Data.Europe.Eu
Target audience	#General population #Companies
Language	#English
Objectives	<p>A sustainable data cycle needs a set of principles and practices, as well as an effective data governance. With e-learning, webinars, reading materials and tools, you'll get a better understanding of how governmental and legal considerations underpin and influence open data. We'll illustrate the role data.europa.eu can play in different data spaces and delve into why data governance can add value in the public and private sector. Join us and discover the role and impact of open data governance in Europe!</p>

Title	Understanding the legal side of open data
Link	https://data.europa.eu/en/academy/understanding-legal-side-open-data
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Data.Europe.Eu
Target audience	#General population #Companies
Language	#English
Objectives	<ul style="list-style-type: none"> • Possess a solid understanding of open data and its potential to transform businesses and societies. • Be equipped to construct an impact assessment framework for open data initiatives. • Demonstrate the ability to select appropriate metrics and indicators for measuring open data impact. • Be proficient in utilizing data analysis and visualization tools for measuring open data impact. • Analyse case studies of successful open data initiatives, identifying best practices for implementation.

Digitalization

Title	Digitalisation - Strategy Development Tool for the Digitalisation of SMEs
Link	https://digital-transformation-tool.eu/training/?lang=en
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students

Language	#English
Objectives	The project has fulfilled four objectives: (1) Jointly develop Cyber-Security related teaching and training materials at Masters and PhD level; (2) Create within each partner institution, a center for cyber-security teaching and awareness competences with curriculum encompassing area of expertise of each partner institution.; (3) Support decision makers in the area of higher education with a set of recommendation on how to improve the quality of teaching in cyber-security; (4) Adopt an online collaborative and interactive tool for delivering the courses to remote students.

Title	Digital Transformation Course
Link	https://www.coursera.org/learn/bcg-uva-darden-digital-transformation
Type	#Online learning platform #At a cost
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Companies #Students
Language	#English
Objectives	The University of Virginia's Coursera, shared in the DSKP platform, course on Digital Transformation is a beginner-friendly program that explores the principles and strategies of digital transformation. It consists of four modules covering topics such as the impact of technology on business, managing disruptions, digital trends, and implementing a digital transformation framework. Participants will gain skills in understanding innovation economics, assessing digital technologies, and applying BCG's framework for effective organizational digitization.

Title	Digitization: valorization for public authorities
Link	https://e4you.org/es/moocs/digitization-valorization-public-authorities

Type	#Online learning platform #App
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National initiative
Target audience	#General population
Language	#Spanish
Objectives	Online training showcasing the gathered experience on the approach of public authorities in the context of digitizing their processes and improving public services via cutting-edge technologies. A series of audiovisual materials introducing and developing concepts, methods, tools, etc., on the various topics contained in this course . A true/false questionnaire to evaluate the knowledge acquired.

Title	Introduction to IoT and Digital Transformation
Link	https://skillsforall.com/course/introduction-iot?courseLang=en-US
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#General Population
Language	#English #German #Spanish
Objectives	The Internet of Things (IoT) is a fast-growing area of technology, with new companies, products, and job opportunities springing up all over the world. Discover how IoT, along with emerging technologies such as data analytics and artificial intelligence and cybersecurity, are digitally transforming industries and expanding career opportunities. Invest in learning IoT skills and you can transform any business in any industry, from manufacturing to environmental conservation. Today over 26 billion people,

	systems, and physical objects are connected and share data seamlessly over the Internet – and it's rapidly changing our world. Learn the IoT skills you will need to land a well-paying job in this exciting field. Modules: Module 1: Everything is Connected, Module 2: Everything Becomes Programmable, Module 3: Everything Generates Data, Module 4: Everything Can be Automated, Module 5: Everything Needs to be Secured, Module 6: Educational and Business Opportunities, Introduction to the Internet of Things and Digital Transformation Final Exam
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Title	IT FOR A LONGER INDEPENDENT LIFE (eHealth EuroCampus)
Link	http://ehealtheurocampus.eu/output-2-it-for-a-longer-independent-life
Type	#Report
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus +
Target audience	#Trainers #Students
Language	#Ec(https://erasmus-plus.ec.europa.eu/projects/search/details/2016-1-FR01-KA203-023932)
Objectives	The overall aim of this module is to develop skills in designing software applications to support a longer independent life for their users.

Title	Metaverse, AI, immersive technologies and digital transformation
Link	https://e4you.org/es/moocs/metaverso-ia-y-tecnologias-inmersivas-y-transformacion-digital
Type	#Online learning platform
Access	#Open access
Price	#Free

Certification	#No certification
Source	#National initiative
Target audience	#General population
Language	#Spanish
Objectives	Learn the keys to cybersecurity in artificial intelligence and immersive technologies, machine learning or quantum computing. Risks, threats, privacy, algorithmic discrimination, or persuasive technology. All students who follow the course will receive a "Certificate of Attendance" in digital format from the BISITE Research Group of the University of Salamanca, the Air Institute Foundation and the IoT Digital Innovation Hub, at no cost. Those who want to obtain an aptitude diploma or "Certificate of Improvement" from the BISITE Research Group, the General Foundation of the University of Salamanca and the University of Salamanca, the IoT Digital Innovation Hub and the Air Institute Foundation, may also request it in digital or printed format.

Digital Health

Title	Application of Digital Health Interventions
Link	https://www.futurelearn.com/courses/consciousness
Type	#Online learning platform
Access	#Open access (requires sign-up) #At a cost
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Students #Health care professionals
Language	#English
Objectives	<p>Research on digital health interventions in mental health.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explore the basics of digital health intervention • Evaluate medical apps • Describe the potential development of digital health application

	<ul style="list-style-type: none"> • Approaches to integrating mental illness and digital health • Explore mobile apps on complex diseases
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Title	Digital Health Essentials
Link	https://www.futurelearn.com/courses/digital-health-essentials
Type	#Online learning platform
Access	#Open access (requires sign-up) #At a cost
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Students #Health care professionals
Language	#English
Objectives	<p>Discover digital health and learn how digital health improves efficiency, reduces medical errors, and improves health outcomes.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explain terminology and basic principles in Digital Health • Assess the gaps and challenges in improving healthcare services using Digital Health • Apply the basic principles of data, information and knowledge in various applications of Digital Health

Title	Digital Health for Cancer Management: Smart Health Technologies in Complex Diseases
Link	https://www.futurelearn.com/courses/digital-cancer-management
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative

Target audience	#Health care professionals
Language	#English
Objectives	<p>Learn how new digital health technologies are transforming cancer management with this course for healthcare professionals.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Identify the real problems encountered by patients with cancer. • Explore new technologies for the management of patients living with cancer. • Evaluate devices, clinical trials or qualitative studies in digital health for cancer. • Engage better digital health innovations.

Title	Digital Health Transformation – introductory e-course
Link	https://fluxlearning.typeform.com/HTAeCourse2022?typeform-source=eithealth.eu ; https://eithealth.eu/programmes/healthcare-transformation-academy/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#With certification
Source	#EIT Health
Target audience	#Companies #Health care professionals
Language	#English
Objectives	Learn about the different alternatives and aspects influencing in the implementation of digital transformation and its relationship with innovation and digitalisation.

Title	Digital Health Transformation
Link	https://eithealth.eu/programmes/hta-digital-health-transformation/

Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Companies #Health care professionals
Language	#English
Objectives	By using a structured path, learn how to integrate digital transformation in healthcare and understand the arising different roles of this century's population. Modules: 1) Introduction to eHealth and Digital Transformation, 2) Empowerment and new professional roles, 3) How to develop a digital health transformation project, an overview, 4) Definition and execution phase, 5) Implementation phase, 6) Evaluation phase, 7) How can I explain my project? Tools and tips.

Title	Digital Skills for Better Health and Well-being
Link	https://www.e-gnosis.gov.cy/training/HE55NIC29 https://digital-skills-jobs.europa.eu/en/opportunities/training/digital-skills-better-health-and-well-being-he55nic29
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#EIT Health
Target audience	#Companies #Health care professionals
Language	#English #Greek
Objectives	By using a structured path, learn how to integrate digital transformation in healthcare and understand the arising different roles of this century's population. Modules: 1) Introduction to eHealth and Digital Transformation, 2) Empowerment and new

	professional roles, 3) How to develop a digital health transformation project, an overview, 4) Definition and execution phase, 5) Implementation phase, 6) Evaluation phase, 7) How can I explain my project? Tools and tips.
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Title	eHealth: Combining Psychology, Technology, and Health
Link	https://www.futurelearn.com/courses/ehealth
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Companies #Health care professionals
Language	#English
Objectives	<p>How can technology make you healthy? Learn about the design, application, implementation and evaluation of eHealth.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explain the term eHealth, give examples of possible forms of eHealth, and identify possible benefits and barriers • Apply and recognize theoretical principles from Human Centred Design, behaviour change theory and the Persuasive Systems Design Model when designing an eHealth technology • Identify the most important principles and theories from eHealth implementation and recognize implementation methods • Describe how the phases and principles of the CeHRes Roadmap are used in the development of eHealth technologies • Explain the rationale behind formative and summative evaluation and recognize methods from both forms of evaluation

Title	eLearning in Health (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=3
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Health care professionals #Students
Language	#English
Objectives	By using a structured path, learn how to integrate digital transformation in healthcare and understand the arising different roles of this century's population. Modules: 1) Introduction to eHealth and Digital Transformation, 2) Empowerment and new professional roles, 3) How to develop a digital health transformation project, an overview, 4) Definition and execution phase, 5) Implementation phase, 6) Evaluation phase, 7) How can I explain my project? Tools and tips

Title	E-HEALTH APPLICATIONS AND TOOLS
Link	http://ehealtheurocampus.eu/output-3-e-health-applications-and-tools
Type	#Report
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Trainers #Students
Language	#English
Objectives	The overall aim of the module is to develop students' skills in designing software, mainly mobile applications to enable patients

	and elder persons to live longer independently and to collect medical parameter data in order to monitor the patient or to provide telemedical treatment.
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Title	Electronic Health Records (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=8
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students #Health Care Professionals
Language	#English
Objectives	1) Understand and explain concepts, principles and methodologies related to Electronic Health Records; 2) Describe how implementation of the Electronic Health Records improves the healthcare system; 3) Identify ways in which Electronic Health Records implementation improves workflows; 4) Understand the importance of patient data privacy; 5) Apply relevant safety, privacy, and policy concepts to the use of Electronic Health Records' within the clinical/hospital setting; 6) Gain hands-on experience using digital solutions that satisfy the functionalities of the Electronic Health Records.

Title	mHealth (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=4
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+

Target audience	#Companies #Students #Health Care Professionals
Language	#English
Objectives	This course has the general objective to instruct students on the fundamental concepts of health analytics and big data, enabling students with full comprehension and critical attitude on the complex process of the current data science field of work - that is the base for decision-making in health.

Title	MedTech: AI and Medical Robots
Link	https://www.futurelearn.com/courses/medtech-ai-and-medical-robots
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	<p>Explore human robot interaction and enter the fascinating world of robotics and artificial intelligence in healthcare.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Discuss how AI and Robotic technologies could impact the nature of assisting individuals with healthcare complications. • Articulate the commercialisation and regulatory process of medical robotics in the US and UK. • Describe crucial problems of using AI and robotics in healthcare and how this is overcome. • Describe how assistive robots assist in the application for surgery and rehabilitation.

Title	MedTech: Digital Health and Wearable Technology
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Link	https://www.futurelearn.com/courses/medtech-digital-health
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Companies #Students
Language	#English
Objectives	<p>Discover digital health and learn how wearable technology is transforming healthcare with this online MedTech course.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe digital transformations to healthcare • Discuss patient and healthcare professionals' needs and priorities • Reflect on the ethical, regulatory and accessibility challenges of digital medicine • Articulate the commercial opportunities of digital medicine and contributions to healthcare • Debate the impact digital medicine has on patients, professionals and healthcare systems

Title	Precision Medicine and Smart Healthcare: The Industrial Applications
Link	https://www.futurelearn.com/courses/industrial-application-in-precision-medicine-and-smart-healthcare
Type	#Online clearing platform
Access	#Open access (requires sign-up)
Price	#At a price
Certification	#With certification
Source	#Private Initiative
Target audience	#Trainers #Students

Language	#English
Objectives	<p>Explore the trends in the development of precision medicine, smart healthcare, regenerative medicine, and targeted therapy.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe the scope of precision medicine • Explore the advantages of biomedical industry in Taiwan • Investigate the advanced technologies improve people's lives • Explore the new trends on targeted therapy • Explore the the technique of regenerative medicine

Title	ROBOTICS FOR HEALTHCARE (eHealth EuroCampus)
Link	http://ehealtheurocampus.eu/output-4-robotics-for-healthcare
Type	#Report
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Trainers, #Students
Language	#English
Objectives	<p>This eModule aims at providing skills and knowledge on robotics and their application in healthcare. Problem based learning and working in multidisciplinary groups methodologies are used in order to achieve a wide and deep knowledge about the use of robot technologies in healthcare. The main goals of the course are the introduction to the methodological bases of robot modelling and control as well as the analysis of the medical requirements of robotics in each health area.</p>

Title	Telemedicine (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=2
Type	#Online learning platform

Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities (World Health Organization).

Title	Telemedicine: Tools to Support Growth Disorders in a Post-COVID Era
Link	https://www.futurelearn.com/courses/tools-to-support-growth-disorders-through-telemedicine-in-post-covid-era
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Health Care professionals
Language	#English
Objectives	On this four-week course, you'll learn how to improve digital literacy in diagnosis management. In particular, you'll examine the ways eHealth can support individuals with growth disorders based on case studies from pediatric patients requiring growth hormone treatment.

	<p>This course will help you improve your knowledge and confidence in using eHealth and telemedicine to support clinical decision-making.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explore what eHealth is, telemedicine and how it applies to evaluation and management of growth disorders • Discussion on emerging understanding of challenges, opportunities and eHealth solutions as applied for management of growth from the viewpoints of caregivers, patients and health care providers • Engage in the activities that support the understanding and application of research methods for the evaluation of digital health tools • Investigate additional resources related to digital health in the view of setting up research proposals • Explore how eHealth applies to cope with disorders • Explore how eHealth tools can be applied to other disorders
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Entrepreneurship

Title	An Introduction to Innovation in Healthcare
Link	https://www.futurelearn.com/courses/innovation-in-healthcare
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Students #Health Care Professionals
Language	#English
Objectives	<p>Explore the need for innovation in healthcare, the development, adoption and spread of an innovation, and blockers to adoption</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Understand the need to engage in innovation. • Understand and apply the key steps involved to take an innovation from idea to realisation. • Evaluate how individuals and organisations might be encouraged to develop an innovation mindset.

	<ul style="list-style-type: none"> • Understand the importance of teamwork and collaboration. • Evaluate the challenges of healthcare innovation in relation to your own organisation. • Recognise healthcare innovation initiatives
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Title	Business Models for Innovative Care for Older People
Link	https://www.coursera.org/learn/business-models-innovative-care
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#General population
Language	#English
Objectives	This course addresses the challenge of an aging population, emphasizing the need for healthcare innovation. It explores the impact of longer lifespans on health, welfare, and the economy. Focusing on diabetes and rehabilitation, the interdisciplinary course teaches theories and tools for developing innovative solutions. Leading experts from various fields contribute to the holistic approach to active aging and healthy living.

Title	Artificial Intelligence for Business Strategy
Link	https://professionalschool.eitdigital.eu/business-strategy-artificial-intelligence
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Digital

Target audience	#Students
Language	#English
Objectives	This training program, developed in collaboration with KTH Executive School in Sweden, equips professionals with the knowledge and tools to effectively harness the potential of Artificial Intelligence (AI) in business. It covers topics like AI implementation, profitability assessment, and understanding AI's business implications. Designed for managers and decision-makers, it aims to broaden their understanding of AI's disruptive potential for digital transformation and is taught by experts from various backgrounds. Completing the course empowers participants to make informed decisions and leverage AI for business growth.

Title	Creating your business with open data
Link	https://data.europa.eu/en/academy/creating-your-business-open-data
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Data.Europe.Eu
Target audience	#Companies #Students
Language	#English
Objectives	Are you a developer looking to create or update a product or service? Or in a project that needs dataset to create a prototype or application? This is the course for you! Our e-learning modules will highlight the value and benefits of open data and how to exploit its full potential in the digital age. Through webinars and reading materials, you'll see different business models and examples of initiatives that use open data. By the end of the lesson, you'll understand how to use open data to create a new product or service or develop it and take it to the next level. Join us and discover the full potential of open data!

Title	DigiThink - Design thinking for digital innovation
Link	https://projects.unibit.bg/course/index.php?categoryid=14 https://ec.europa.eu/programmes/erasmus-plus/project-result-content/2ecf52c8-82f5-4491-b920-9694cce6e69/IO2_Learning_materials.pdf
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	DigiThink stands for “Design thinking for digital innovation”. The project aims to develop a new course to be implemented as part of HEIs' curricula on this topic. The idea behind DigiThink is to apply design thinking methodology for digital innovative business creation. The project has four key intellectual outputs: Course syllabus and learning methodology; training and learning materials, open educational resources. It is based on three concepts: design thinking, social and digital innovation. Design thinking incorporates constituent or consumer insights in depth and rapid prototyping, all aimed at getting beyond the assumptions that block effective solutions. Design thinking—inherently optimistic, constructive, and experiential—addresses the needs of the people who will consume a product or service and the infrastructure that enables it. Businesses are embracing design thinking because it helps them be more innovative, better differentiate their brands, and bring their products and services to market faster.

Title	Design Kit
Link	https://www.designkit.org/methods
Type	#Online learning platform
Access	#Open access

Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	Human-centered design is a practical, repeatable approach to arriving at The digital transformation learning tool offers practical analytical, learning and planning materials for the digital transformation of companies and the ongoing development of business models. These materials can be used directly on the job by learners (work-based learning approach).

Title	Enhancing enTreprenEurIAI steM Skills for new digiTal cAreRs
Link	https://teamstar.e-ce.uth.gr/#/home https://drive.google.com/file/d/1Dfe0PUUchQ8NbwBZbEQwXKRb5G49uEEV/view
Type	#Online learning platform
Price	#Free
Certification	#No certification
Access	#Open access
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	To provide secondary school students and teachers with methods and tools for entrepreneurship through hands-on experiences, problem-based learning, design thinking, and the development of STEM.To achieve the projects impact, important steps of the project were defining a common framework for digital entrepreneurship following the EnteCom Framework, designing a new curriculum for the promotion of new digital careers with a special focus on STEM skills development and operationalizing such curriculum through the application of the design thinking method. Another important objective leading to successful implementation of project concept and tangible results is

	improving the collaborative sense among teachers and schools through the exchanging of experience, best practices focusing on the interdisciplinary and multidisciplinary approach.
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Title	Human Resources in Health (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=9
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	1) Examine the strategic role of human resource management in response to changes in the health care industry. In addition, issues such as recruitment, retention, performance management, organisational development, monitoring and evaluation will be examined, 2) Explain the concept of Human Resources and e-Professionalism in the health sector, 3) Understand how to prepare, attract, maintain, and enable Human Resources in Health and e-Professionalism, 4) Explore the interaction of key elements of the health system and health outcomes, 5) Discern different strategies to assure equitable distribution of sufficient and qualified staff, 6) Understand Human Resources in Health and e-Professionalism needs and explore how to respond to them adequately, 7) Explore how the private sector may mitigate existing issues in the health sector, 8) Understand and value the strategic role of human resources in a health care organisation and in effectively managing organisational transformation. 9) Understand the role, importance, and technologies for monitoring Human Resources in Health and e-Professionalism

Title	INNOVATION AND ENTREPRENEURSHIP IN E-HEALTH (eHealth EuroCampus)
Link	http://ehealtheurocampus.eu/output-1-innovation-and-entrepreneurship-in-e-health
Type	#Report

Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+ (https://erasmus-plus.ec.europa.eu/projects/search/details/2016-1-FR01-KA203-023932)
Target audience	#Trainers #Students
Language	#English
Objectives	The objective of this first module is to show the interest of combining the field of eHealth with entrepreneurship. As a strategic domain of the European Union, we also deal with the challenges and risks related to this field of action, particularly in terms of ethics.

Title	Innovation in Health (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=6
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	This module will introduce to innovations in the healthcare system as well care for critical discussions, interdisciplinary collaboration, or economic issues.

Title	Market access & Health Technology Assessment
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Link	https://openacademy.eurordis.org/courses/market-access-and-ha/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private initiative
Target audience	#Health Care Professionals #Students #General Population
Language	#English
Objectives	Take this course to learn more about Health Technology Assessment (HTA), the different Market Access Approaches in Europe and the new EU HTA Regulation.

Title	Master of Science: Entrepreneurship in Digital Health
Link	https://eithealth.eu/programmes/master-entrepreneurship-digital-health/
Type	#Master Program
Access	#Reserved
Price	#At a cost
Certification	#With certification
Source	#EIT health
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	The Master of Science in Entrepreneurship in Digital Health is a pan-European program focusing on digital health solutions. It combines strategic management, digital innovation, and international business creation to equip students with skills for the digital health sector. The program encourages collaboration and transdisciplinary approaches, offering hands-on learning and networking opportunities. It's open to bachelor's students, healthcare professionals, entrepreneurs, and innovators with an

	<p>interest in developing digital health products or services. Applicants should have a minimum bachelor's degree and English proficiency. Some institutions may require relevant professional experience. The program spans 4 semesters and costs €1,250 per semester.</p>
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Title	Medical Regulatory Framework and Procedures
Link	https://openacademy.eurordis.org/courses/medical-regulatory-framework-procedures/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Companies
Language	#English
Objectives	<p>All aspects within the medicines development process are subject to various degrees of regulation. In this course, you can learn more about the legal framework, guidelines, health authorities' attitudes and requirements, which have a significant influence on the development process and its success rate. As patient advocates and researchers, it is important to understand the basic principles of regulatory affairs in order to be able to interact proactively with regulatory authorities. To complete this course, you need to read through all the lessons: Lesson 1: The Current Regulatory Framework, Lesson 2: Regulatory Procedures. At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion.</p>

Title	Smart Technologies By Design
Link	https://projects.unibit.bg/course/index.php?categoryid=19 https://ec.europa.eu/programmes/erasmus-plus/project-result-content/dcc5de6f-6a88-432e-b9f0-efac9bcdcd3c/IO2_TRAINING_PROGRAM_FOR_SMART_DISRUPTIVE_INNOVATION-1.pdf

	https://www.smartbydesign.eu/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	To equip early stage entrepreneurs and established SME owner-managers with the knowledge and skills needed to identify and interpret early warning signals of business crisis so that they can take timely, corrective actions. Specific objectives are 1) introduce the topic of early warning signals of business failure based on up to date academic research which will be both informative and instructive to business advisers, lecturers, enterprise educators, which will build their knowledge and pedagogic capacities on the topic. 2) To enable trainers, business advisors, lecturers, enterprise educators to access a new teaching model which they can use to introduce the topic of early stage intervention for business failure/crisis into their course provision. 3) to provide a interactive online learning course which enables direct access to educational resources for SME owner/ managers.

Title	Smart Up
Link	https://erasmus-plus.ec.europa.eu/projects/search/details/2019-1-UK01-KA202-062048 https://www.smartupproject.eu/online-course/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+

Target audience	#Companies #Students
Language	#English, #German, #Spanish
Objectives	The aim of the project is to develop the competences of the SME managers and owners to drive smart disruptive technology business. More specifically we combine management and digital skills and provide: a map of digital disruptive technologies; training program with modules and materials for smart innovation; toolkit with business models, tools for UX and DT process, social innovation aspects, platform for learning with materials and tools.

Title	Social Media in eHealth (Connect project course module)
Link	https://ehealthcourse.publichealth.ro/course/view.php?id=7
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Companies #Students
Language	#English
Objectives	1) Understand the advantages and disadvantages of social media in health, 2) Differentiate between the concepts of infodemic, misinformation, disinformation, and fake news, 3) Identify ways in which social media can be (and is currently) used in global health and development, 4) Understand the taxonomy of gamification and how this taxonomy can be used in healthcare, 5) Recall the steps involved in developing a social media strategy and link it to programmatic goals and budget.

Healthcare service organization

Title	Cybersecurity in Healthcare (Hospitals & Care Centres)
Link	https://www.coursera.org/learn/cybersecurity-in-healthcare
Type	#Online learning platform

Access	#Open access (paid certification)
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Health care professionals
Language	#English
Objectives	<p>The Cybersecurity in Healthcare MOOC was developed as part the SecureHospitals.eu project. This project has received funding from the European Union's Horizon 2020 Coordination Research and Innovation Action under Grant Agreement No. 826497 The course "Cybersecurity in Healthcare" has been developed to raise awareness and understanding the role of cybersecurity in healthcare (e.g., hospitals, care centres, clinics, other medical or social care institutions and service organisations) and the challenges that surround it. In this course, we will cover both theoretical and practical aspects of cybersecurity. We look at both social aspects as technical aspects that come into play. Furthermore, we offer helpful resources that cover different aspects of cybersecurity. Even if you are not active in the healthcare domain, you will find helpful tips and insights to deal with cybersecurity challenges within any other organisation or in personal contexts as well.</p>

Title	Dementia Inclusive Hospitals from a Universal Design Approach
Link	https://eithealth.eu/programmes/dementia-inclusive-hospitals/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Companies #Health care professionals
Language	#English

Objectives	This course will present learners with key information, insights, and tasks related to dementia-friendly hospital design covering the following key areas: 1) Understand the symptoms of dementia and the related impairments and how these impact on a person's experience of the hospital setting, 2) Universal Design and how it can support a dementia-friendly design approach in the hospital context, 3) Understanding the hospital in terms of key spatial scales and key areas – campus or site, main internal circulation area, emergency department, inpatient ward, etc, 4) Key dementia-friendly hospital design
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Title	EIT Health: High Value Care Introduction Course
Link	https://eithealth.eu/programmes/high-value-care-introduction/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Companies #Health care professionals
Language	#English
Objectives	Introduction to the importance of leadership in the healthcare context. Modules: 1) Leadership in a VUCA world, 2) New insights into leadership, 3) Leadership relevance in the healthcare context

Title	GRAPHICS AND MEDICAL IMAGING (eHealth EuroCampus)
Link	http://ehealtheurocampus.eu/output-5-graphics-and-medical-imaging
Type	#Report
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+

Target audience	#Students #Health care professionals #Trainers
Language	#English
Objectives	This eModule aims at providing skills and knowledge on Medical Imaging and Digital Image Processing and its application in healthcare. The objective of this module is to cover the basic knowhow, and technologies involved in the development of virtual environments and serious games immersed with medical image and video content. Once the student has completed this module he/she will be able to analyse a problem in the medical domain, extract the needs and requirements and proceed with the design, development, and implementation of the virtual environment of serious game needed.

Title	High Value Care Ambassadors Course
Link	https://eithealth.eu/programmes/hta-high-value-care/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Companies #Health care professionals
Language	#English
Objectives	Introduction to the importance of leadership in the healthcare context. Modules: 1) Leadership in a VUCA world, 2) New insights into leadership, 3) Leadership relevance in the healthcare context

Title	Leadership in Healthcare – introductory e-course
Link	https://eithealth.eu/programmes/hta-leadership/
Type	#Online learning platform
Access	#Open access (requires sign-up)

Price	#Free
Certification	#No certification
Source	#EIT Health
Target audience	#Companies
Language	#English
Objectives	An in-depth course to teach to full spectrum of High Value Care to increase knowledge about the theory and implementation of value-based healthcare by going into detail about successful examples. Modules: 1) Introduction to the concept of High Value Care, 2) Patient engagement, 3) International availability and use of quality and outcome indicators, 4) Clinical examples: pregnancy and childbirth and breast cancer, 5) Dashboards for Value Based Healthcare (VBHC), 6) Organizational transformation on Value Based Healthcare (VBHC), 7) The H2O project: data governance and infrastructure system across Europe

Title	SecureHospitals.eu MOOC for Healthcare and Social Care Professionals
Link	https://www.securehospitals.eu/all-courses/available-march-2021-securehospitals-eu-massive-open-online-course-for-healthcare-and-social-care-professionals/
Type	#Online learning platform
Access	#Open access
Price	#Free (paid certification)
Certification	#With certification
Source	#Horizon 2020
Target audience	#Health care professionals
Language	#English
Objectives	The course offers an overview of the most common cybersecurity-related threats and risks, in the context of more and more connected devices via the Internet of Things (IoT) and explores the type of online attacks launched by hackers in a healthcare context. Topics covered by the course include: data management and storage, personal and sensitive patient data, cloud and network infrastructure and sharing of data, cybersecurity principles and

	main foundations, and many others. The MOOC is conducted in an interactive virtual environment and includes an active community, which offers an opportunity to participants who want to discuss, debate, and understand how they can contribute to ensuring a more secure working environment for everyone in healthcare.
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Health Literacy and disease management for users

Title	AR Remote Guide
Link	https://play.google.com/store/apps/details?id=com.AgeingAtWork.ARRemoteGuide https://ageingatwork-project.eu/content/ageingwork-ar-based-remote-collaboration-apps-available-now
Type	#App
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#General Population
Language	#English
Objectives	An Augmented Reality-based remote collaboration platform for worker assistance, as part of the development of the whole AGEING@WORK solution. The platform consists of two communicating apps intended to be used by a remote guide (located e.g., at home) and an on-site worker and it enables users to communicate through their mobile devices in real-time, providing an enriched view of the physical workplace through shared visual annotations and digital information.

Title	AR Remote Worker
Link	https://play.google.com/store/apps/details?id=com.AgingAtWork.ARRemoteWorker

	https://ageingatwork-project.eu/content/ageingwork-ar-based-remote-collaboration-apps-available-now
Type	#App
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#General Population
Language	#English
Objectives	An Augmented Reality-based remote collaboration tool for worker assistance. This is a bi-directional Augmented Reality-based collaboration tool which enables users to communicate through their mobile devices in real-time, and provides an enriched view of the physical workplace through shared visual annotations and digital information

Title	Carinae
Link	https://play.google.com/store/apps/details?id=com.salumedia.carinae https://stars-pcp.eu/pcp-phases/phase-iii/phase-iii-project-abstract-salumedia
Type	#App
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#General Population
Language	#English
Objectives	Carinae is a resilience support tool that helps you reduce your stress and anxiety, as well as improve your health throughout the care process for different types of surgery. Carinae offers

	<p>personalized educational and guidance information about your surgery, a variety of mental wellness exercises, tailored messages, and a communication channel with your medical team. It also allows healthcare professionals to better understand how you are doing before and after surgery. For a more complete experience, you must pair this app with the Withings Pulse HR wearable. This solution is exclusive for patients from the following hospitals who have signed the informed consent to participate in the STARS-PCP study. This mobile solution has been developed by Salumedia Labs, a European research division of Adhera Health, Inc., adapting the Adhera™ platform (https://adherahealth.com/adhera-platform/) and the Foundation for Research and Technology - Hellas (FORTH, https://www.forth.gr) under the STARS-PCP project (https://stars-pcp.eu/). Salumedia Labs and FORTH have been commissioned, through the group of buyers of the STARS-PCP project, to carry out this digital intervention with funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 727585.</p>
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Title	Diabetes Explained
Link	https://www.futurelearn.com/courses/diabetes-explained
Type	#Online Learning Platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#National Initiative
Target audience	#General Population
Language	#English
Objectives	<p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Investigate and analyse diabetes as a disease in your country • Differentiate between the types of diabetes • Identify the modifiable and non-modifiable risk factors of diabetes • Describe the complications of diabetes • Understand how the body normally controls blood sugar • Debate the changes which need to occur on the personal, interpersonal and society level • Understand a way of testing for diabetes

Title	Diabetes – the Essential Facts
Link	https://www.coursera.org/learn/diabetes-essential-facts
Type	#Online Learning Platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#General Population
Language	#English
Objectives	This course addresses the global diabetes epidemic, with over 420 million people affected, many undiagnosed. Diabetes can lead to severe complications and more deaths than HIV/AIDS, malaria, and tuberculosis combined. The course covers prevention, treatment, and global perspectives, featuring experts from various fields who emphasize the importance of global collaboration in combating diabetes.

Title	Diabetes - A Global Challenge
Link	https://www.coursera.org/learn/diabetes
Type	#Online Learning Platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#General Population
Language	#English
Objectives	Diabetes and obesity are growing health problems in rich and poor countries alike. With this course you will get updated on cutting-edge diabetes and obesity research including biological, genetic and clinical aspects as well as prevention and epidemiology of diabetes and

	<p>obesity. All lectures are provided by high-profile scientists from one of the world's leading universities in diabetes research.</p> <p>This course is part of the EIT Health Campus programme. We hope you will enjoy our course. Best Wishes Jens Juul Holst, Signe Sørensen Torekov and Nicolai Wewer Albrechtsen Department of Biomedical Sciences Novo Nordisk Foundation Center for Basic Metabolic Research Faculty of Health and Medical Sciences University of Copenhagen</p>
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Title	ICT-AAC Gibalica
Link	https://play.google.com/store/apps/details?id=hr.unizg.fer.ictaac.gibalica
Type	#App
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#General Population
Language	#English
Objectives	<p>The final deliverable from the INNOSID project is the application "Gibalica" – a new IT tool developed based on emerging technology studies and software requirements specification delivered through earlier phases of the project. This product is intended to be used as a virtual fitness trainer. It aims to encourage physical activities of all people. It has accessibility features so that the application can be used by people with various disabilities.</p> <p>Target users are people who would like to:</p> <ul style="list-style-type: none"> - engage in basic physical activities, - improve left-right orientation, - have fun playing games like "Day-Night". <p>The main feature of the application is the recognition of the user and his position (e.g. the position of the head, arms, legs, torso...) using the live feed from the device's camera as input. The mobile device recognizes the user from head to toe and uses this information to detect whether the user has performed the exercise correctly.</p>

	The application has three games: "Training", "Day-night" and "Dancing". Each of them uses 13 poses that are used in different contexts. Just some of them are: right hand up, left hand by the side, right leg up, etc.
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Title	iHere - Digital Health Literacy Education for Vulnerable groups
Link	https://ihere-digitalhealthed.eu/login/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#General Population
Language	#English
Objectives	<p>The iHERE project supports the vulnerable social groups in developing a set of health literacy and digital literacy skills. This set of complex skills include the ability to analyse information from digital sources and apply the knowledge to personal health situations. More specifically this can be improving the ability to read and write in online ways that require multiple elements of information, science, health, media and education.</p> <p>iHere - Digital Health Literacy Education for Vulnerable groups</p> <p>The training modules include:</p> <ul style="list-style-type: none"> • Module 1 - Digital Health Literacy (DHL) • Module 2- Primary prevention: Nutrition, Mental and Physical Wellbeing • Module 3 - Vaccination, immunization and other advice • Module 4 - Basic Health Education • Module 5: Mental Health • Module 6: Gender related Health • Module 7: Family Health

Title	Engaging with Controversies in the Food System
Link	https://www.futurelearn.com/courses/engaging-with-controversies-in-the-food-system/5

Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Food
Target audience	#General Population
Language	#English
Objectives	<p>Become more confident in making informed decisions about the food you eat by exploring different food controversies.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Identify the stakeholders and reflect on the complexity of the food supply chains • Explore the policies of national governments and the EU and minimise the food supply chains disruptions • Discuss the control measures in place to ensure the integrity of our food supply chains • Describe the innovations that are helping stakeholders of the agri-food supply chains cope with increased demand • Assess the consequences of a crisis on the integrity of the food supply chains • Summarise your own personal contribution to the problem and explore how you could contribute to the solution.

Title	Food for Thought: The Relationship Between Food, Gut and Brain
Link	https://www.futurelearn.com/courses/food-for-thought
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Food
Target audience	#General Population #Health Care Professionals

Language	#English
Objectives	<p>What will you achieve?</p> <ul style="list-style-type: none"> • By the end of the course, you'll be able to... • Describe the role our diet has on brain function • Identify the role of psychological and neurobiological factors in our food choices • Evaluate the possible causes (biological, social, psychological) of unhealthy and pathological eating behaviours • Explain the connection between the brain and our digestive system (gut) • Assess the relationship between emotions and food intake • Discuss the relationship between the food we eat, the digestive system, and the brain and how this affects daily life

Title	MASK-air
Link	https://play.google.com/store/apps/details?id=nl.peercode.allergydiary&pli=1
Type	#App
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon Europe
Target audience	#General Population
Language	#English
Objectives	<p>The best application for monitoring allergic rhinitis - also called hay fever - according to health care professionals (doctors, pharmacists) and patients. The MASK-air application has been developed by internationally-renowned allergists and has been scientifically validated.</p> <p>Take immediate control of your rhinitis:</p> <ul style="list-style-type: none"> - by becoming a real actor of your own health - by preventing new crises through knowing your symptoms better and avoiding aggravation (asthma) - by having a personalized day-to-day follow-up

	<ul style="list-style-type: none"> - by measuring the effectiveness of the treatment and its possible adaptation - by anticipating crises and their management for the following year <p>MASK-air is an allergic rhinitis logbook - always in your pocket, user friendly, with automatic data backup, with data analysis and visual images to enable your healthcare professional (doctor and/or pharmacist) to manage you better.</p> <p>Record the symptoms of your allergic crises daily as well as the impact on your quality of life and the medications taken. This will help you and your healthcare professionals to determine the diagnosis and effective treatment for YOUR allergic rhinitis.</p> <p>Many patients suffer just like you from their allergies – 20 to 30% of the world's population! Help the patient community and participate in advancing research. MASK-air is an international research project aiming to better understand this pathology, for better care. The app is deployed in more than 20 countries around the world.</p> <p>Allergic rhinitis is a pathology that is not "serious" in itself but that can be troublesome on a daily basis as it can cause complications such as the inability to sleep due to symptoms, excessive fatigue, development or worsening of asthma which can have an important impact on daily life such as absence from work or repeated absence during studies...</p> <p>No identifying data are collected through the use of this application. If you accept the geolocation of your symptoms, this data will be codified on our servers and will respect your privacy. All the data are kept on a secure server in Europe.</p>
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Title	Nutrition for Health and Sustainability
Link	https://www.futurelearn.com/courses/nutrition-for-health
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#EIT Food
Target audience	#General Population

Language	#English
Objectives	Learn what makes up a healthy, sustainable diet and how certain food types can help to treat and prevent disease.

Title	POWER2DM project: information for diabetes patients
Link	https://p2dm.salzburgresearch.at/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#General Population #Students #Health Care Professionals
Language	#English
Objectives	<p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Reflect on the possible causes (biological, social, psychological) of unhealthy eating patterns • Assess the current healthy guidelines and describe how they can be applied to different population groups • Describe which types of foods are essential for health and wellbeing and summarise their important role in treating/preventing disease • Describe the causes of unsustainable food production and consumption patterns • Explain the effects of food on the body, society and the planet and compare their impacts on healthcare practices • Explain the relationship between food, nutrition, diets and human health in the context of sustainability

Title	Porto4Ageing physiotherapy exercises
Link	https://t.ly/j7Cuf
Type	#Video
Access	#Open access
Price	#Free

Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#Portuguese
Objectives	No description

Title	Smart4Health back health instructional videos
Link	https://www.youtube.com/watch?v=qlib2uazlUs
Type	#Video
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon Europe
Target audience	#General Population
Language	#German (subtitles available)
Objectives	Back pain is the reason number 1 when it comes to illness-related absenteeism. In this workshop you will receive background knowledge on back health as well as helpful exercises to prevent or reduce back pain.

Title	Stress Adaptive Manager (SAM)
Link	https://apps.apple.com/gb/app/sam-stress/id1531080976 https://stars-pcp.eu/pcp-phases/phase-iii/phase-iii-project-abstract-grupo-pulso
Type	#App
Access	#Open access

Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#General Population
Language	#English
Objectives	SAM helps to improve the management of surgery stress SAM is a technological tool composed of an App and a Web that allows patients, caregivers and health care professionals to have a better management of surgery stress. SAM monitors the data provided by the user and evaluates the stress data daily to adjust the type and periodicity of the actions suggested by SAM in order to provide a personalised stress action plan to each user to ensure the best return to routine.

Title	Trust in Our Food: Understanding Food Supply Systems
Link	https://www.futurelearn.com/courses/food-supply-systems/6
Type	#Online learning platform
Access	#Open access
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#General Population #Students
Language	#English
Objectives	<p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe the complexity of the global food system and the issues that affect consumer trust in food • Identify the key factors involved in food safety • Assess different sources of nutritional information • Synthesise the different food labels that provide assurances to consumers • Debate how your choices reflect your values • Reflect on the role of the consumer in influencing the food supply system

ICT skills for users

Title	50plus Hellas educational materials collection
Link	https://www.50plus.gr/en/educational-materials/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population #Trainers
Language	#Greek
Objectives	The educational materials developed by 50plus Hellas are addressed not only to people over 50 years old, but also to professionals in the field, such as trainers, carers, social workers as well as to institutions interested in developing actions in the field.

Title	ALL DIGITAL ACADEMY: MOOCs for Adult Trainers on AI and IoT
Link	https://all-digital.org/all-digital-academy-free-moocs-for-adult-trainers-on-ai-and-iot
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#General Population #Trainers

Language	#English
Objectives	The ALL DIGITAL ACADEMY (ADA) is offering two MOOCs to help adult educators and trainers learn about emerging technologies, specifically Artificial Intelligence (AI) and Internet of Things (IoT). The courses aim to equip participants with basic understanding and skills in AI and IoT and enable them to deliver engaging awareness and learning experiences. Each MOOC runs for 12 weeks, with a total of 24 hours estimated study time. Participants can choose from three cycles, and successful completion yields a certificate. Topics covered include AI history, ethics, IoT fundamentals, security, and use cases.

Title	Barclays Digital Eagles – Digital wings
Link	https://digital.wings.uk.barclays/register/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Private initiative
Target audience	#General Population
Language	#English
Objectives	Barclays Digital Eagles has the objective of helping everyone make the most out of being online. By boosting digital skills, users will be able to grow more confident in an increasingly online world. The Digital wings presents a wealth of resources, tools and tutorials to help users become more effective online – whether it's to better look after money, boost business presentation skills, improve cyber security or brush up on email basics.

Title	Basic Digital Skills
Link	https://shorturl.at/IIORY
Type	#Online learning platform

Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#Greek
Objectives	The Human Resources Development Authority of Cyprus (HRDA) offers an 80-hour training program covering fundamental digital skills, including computer operation, file management, data security, networking, internet usage, remote software, text processing, calculators, databases, and presentation tools. These free programs aim to enhance the digital skills of participants, supported by the European Union, to meet the demands of the modern job market and digital transition. These programs are available in-person and through e-learning, benefiting a wide range of individuals, including self-employed and public sector employees, with tailored offerings for the unemployed. For details, visit www.anad.org.cy or contact HRDA's Public Service Office at 22390300.

Title	Digi Module 1: Entry into the digital world
Link	https://werkzeugkiste.arbeitplus.at/courses/modul-1-einstieg-in-die-digitale-welt/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#German
Objectives	Objectives: 1) basic information about the digital world, 2) Smartphones from the outside and basic operation, 3) Computer

	from the outside and basic operation: keyboard/mouse, 4) Basic operation of Microsoft Windows: interface, apps, settings. Module Content: Course 1: Digitization Basis, Course 2: Smartphone Basic, Course 3: Computer Basis, Course 4: Windows Basic
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Title	Digi Module 2: Internet & E-mails
Link	https://werkzeugkiste.arbeitplus.at/courses/modul-2-internet-e-mail/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#German
Objectives	Objectives: 1) Necessary knowledge for the use of the Internet, 2) Search the Internet, "google", 3) Shopping, banking, and dealing with the authorities at home, 4) E-mails: requirements and use, 5) Tips & tricks for advanced users Module Content: Course 1: Internet Basic, Course 2: E-Mail Basic, Course 3: Banks and Public Authorities on the Internet, Course 4: Internet & E-Mail for Advanced Users

Title	Digi Module 3: Digital Security
Link	https://werkzeugkiste.arbeitplus.at/courses/modul-3-digitale-sicherheit/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative

Target audience	#General Population
Language	#German
Objectives	Objectives: 1) Secure Devices, 2) Secure and convenient passwords, 3) Email fraud and other dangers, 4) Buy new and used items safely on the Internet, 5) Hints and tips on the digitization of adolescents and children. Module Content: Course 1: Security Basis, Course 2: Safe Online Shopping, Course 3: Safety for children and adolescents

Title	Digi Module 4: Finding jobs digitally
Link	https://werkzeugkiste.arbeitplus.at/courses/modul-4-jobs-digital-finden1/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#German
Objectives	Objectives: 1) Preparations for the application, 2) Find jobs online, 3) Applications on the Internet, 4) Tips and Tricks Module Content: Course 1: Preparation, Course 2: Finding and Applying

Title	DiLitE project learning platform
Link	https://dilite-project.eu/platform/
Type	#Online learning platform
Access	#Open access
Source	#Erasmus+
Target audience	#General Population

Language	#English
Objectives	<p>The DiLitE e-learning portal supports a wide range of innovative online courseware. It incorporates a learner tracking mechanism to enable adult education professionals to monitor the progress of their target groups through the various different resources provided. It supports the delivery of the in-service training curriculum and the accompanying learning resources. It is fully web 2.0 compliant and includes all the standard and expected social media features that are now an essential part of on-line learning.</p> <p>DiLitE aims to empower adults with low-level literacy skills, with the necessary digital competence for their social and civic participation in society. Includes the following modules:</p> <ol style="list-style-type: none"> 1. Where is the concept from? 2. how to teach in flux? 3. Who are the learners? 4. How to see technology as your friend not foe? 5. Survive or thrive? 6. Trends in Digital Literacy and Learning: What does the future hold?

Title	EnBuenaEdad: Acércate al mundo digital
Link	https://www.easp.es/envejecimientoactivo/enrol/index.php?id=6
Type	#Online learning platform
Access	#Open access [requires sign-up)
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#Spanish
Objectives	No description

Title	EnBuenaEdad: Conoce y aplica las herramientas digitales
Link	https://www.easp.es/envejecimientoactivo/enrol/index.php?id=16

Type	#Online learning platform (requires sign-up)
Access	#Open access
Source	#National Initiative
Target audience	#General Population
Language	#Spanish
Objectives	No description

Title	EnBuenaEdad: Uso de dispositivos móviles
Link	https://www.easp.es/envejecimientoactivo/enrol/index.php?id=15
Type	#Online learning platform (requires sign-up)
Price	#Free
Certification	#No certification
Access	#Open access
Source	#National Initiative
Target audience	#General Population
Language	#Spanish
Objectives	No description

Title	Home and Learn: Free Online Computer Courses
Link	https://www.homeandlearn.co.uk/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative

Target audience	#General Population
Language	#English
Objectives	Home and Learn is a website that offers free online courses and tutorials on various computer-related topics. The site is primarily aimed at beginners who want to learn how to use and program computers, as well as those who want to improve their existing skills. The site features tutorials on subjects such as Microsoft Office, HTML and CSS, JavaScript, Python, and more. Each tutorial is designed to be easy to follow, with step-by-step instructions and clear examples. The courses are structured in a logical and progressive manner, starting with the basics and gradually building up to more advanced topics. In addition to the tutorials, the site also offers a range of resources to help users learn and practice their new skills. This includes quizzes and exercises to test understanding, as well as downloadable files and sample code.

Title	iHeal
Link	https://iheal.eu/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#General Population
Language	#English
Objectives	The project iHeal, co-funded by Erasmus+ KA2 Strategic Partnerships in the field of adult education, aims to create a training programme to facilitate elderly people's access to electronic health services. Includes the following modules: Module 1: Basic Digital Literacy Skills – Becoming Autonomous Users. Module 2: Online safety, secure web-browsing and protecting your privacy, Module 3: Reliability and relevance of online information, Module 4: Social Media and Instant Messaging Applications, Module 5: Health Promotion information and related applications, Module 6: The Digital Patient, Module 7: Manage your e-health portfolio (Health Data Management), Module 8: E-Health services navigator.

Title	Internet, email and social media usage
Link	https://shorturl.at/emnL3
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#Greek
Objectives	A 20-hour training program designed to provide knowledge and skills in internet, email, and social media usage. The program encompasses modules covering topics such as web browsing principles, practical web navigation, web information retrieval, communication fundamentals, social media usage, and email proficiency.

Title	LearnersMot2 – Motivating adult learners
Link	https://learnersmot2.eu/start-course.php
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#General Population
Language	#English

Objectives	Learners MOT2 is a website that offers online courses for aspiring mechanics in the United Kingdom. The site offers a variety of courses, ranging from basic mechanics to more advanced topics. Each course includes video tutorials, interactive quizzes, and practical assessments to test understanding and reinforce learning. The courses are designed to be flexible, allowing users to learn at their own pace and in their own time. In addition to the courses, Learners MOT2 also offers a range of resources to help users prepare for the MOT test, including study guides, practice tests, and mock exams. The site also provides support and guidance to help users navigate the certification process and start their career as a certified mechanic
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Title	Meganga - Computer Lessons For Seniors And Beginners
Link	https://www.meganga.com/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#General Population
Language	#English
Objectives	Meganga provides free basic computer training for beginners with online video computer lessons and computer courses for Microsoft Office Word, PowerPoint and How to use Excel.

Title	SOS creativity
Link	https://www.soscreativity.eu/training.php
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification

Source	#Erasmus+
Target audience	#General Population
Language	#English
Objectives	SOS Creativity, co-founded by the European Commission, focuses on senior social inclusion and welfare. It offers training materials to enhance digital skills, covering cultural literacy, personal data protection, online security, and more. The courses empower low-skilled adults in areas such as digital identity, online reputation, and safe online transactions, enabling them to use online resources effectively and securely while navigating cultural resources and media platforms. These efforts strengthen cross-sector cooperation and support creativity in non-formal education.

Title	Skillful Senior
Link	http://skillfulsenior.sense-lang.org/index.php
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Private initiative
Target audience	#General Population
Language	#English
Objectives	The Skillful Senior website is an online resource that provides free typing lessons and tutorials for senior citizens. The site is designed to help older adults improve their typing skills and increase their computer literacy. The website features a variety of typing exercises and games that are designed to be engaging and fun. Users can choose from different levels of difficulty, ranging from beginner to advanced, and can track their progress over time. In addition to the typing exercises, the Skillful Senior website also provides tips and advice on how to use a computer more effectively, including advice on using popular software applications like Microsoft Word and Excel. The site also offers resources for staying safe online, including tips for avoiding scams and protecting personal information. Overall, the Skillful Senior

	website is a valuable resource for older adults who want to improve their computer skills and become more comfortable using technology. With its engaging exercises, helpful tips, and supportive community, the site provides a great opportunity for seniors to stay active and engaged in the digital world.
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Title	TechBoomers
Link	https://techboomers.com/courses
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private initiative
Target audience	#General population
Language	#English
Objectives	Techboomers has over 100 free courses with thousands of step-by-step tutorials and informational articles that can help users anything and everything about the Internet's most popular websites and apps

Humanities in health care and in the Digital World

Title	Advancing Social Impact with Digital Technologies
Link	https://www.futurelearn.com/courses/advancing-social-impact-with-digital-technologies
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification

Source	#National initiative
Target audience	#General Population
Language	#English
Objectives	<p>Learn how to harness digital technology to drive social impact, environmental protection, and sustainable development.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explain the importance of the United Nations Sustainable Development Goals (SDGs) • Explore ways digital technology can be utilised to facilitate the achievement of the UN SDGs • Apply digital technology solutions to humanitarian issues in an organisational context

Title	AI Ethics: Global Perspectives
Link	https://aiethicscourse.org/index.html
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#National initiative
Target audience	#General Population
Language	#English
Objectives	<p>This course is a collection of lectures on the ethical implications of data and artificial intelligence (AI) from different perspectives. As technology develops and they become more data-intensive and AI-based technologies, these can solve global challenges but can also be a risk to individuals and groups. As such, it is crucial to consider the ethical ramifications of AI use to identify and rectify harms. This course is designed to raise awareness of the societal impacts of technology and to give individuals and institutions the tools to undertake responsible AI use. This course is intended for current and future data scientists, policymakers, and business leaders. It is composed of 19 modules on topics related to AI and each module consists of a video lecture accompanied by additional resources.</p>

	Modules include: 1) Data Protection and AI: The relation between ethical and legal approach, 2) Ethics Applied to AI: A matter of cultures and words, 3) AI Ethics and Hate Speech, 4) How Your Teeth, Your Smile and AI Ethics are Related. These are a non-exhaustive list of modules and the course has monthly releases of modules for learners to consult.
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Title	An Anthropology of Smartphones: Communication, Ageing and Health
Link	https://www.futurelearn.com/courses/an-anthropology-of-smartphones
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#General Population
Language	#English
Objectives	<p>This course will develop your understanding of the concept of digital anthropology as you explore how smartphones have transformed our daily lives and how they can be used productively.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Explore how smartphones affect everything in people's lives from their relationships to participation in cultural life through an anthropological lens. • Engage with and evaluate the cultural and social contexts of mobile health through ethnography. • Discuss how discourses about ageing manifest in different global contexts, as well as how ageing is being redefined in the digital era • Investigate different anthropological methodologies such as participant observation and holistic contextualisation, especially from a collaborative and comparative perspective.

Title	Ethics in clinical trials
Link	https://openacademy.eurordis.org/courses/ethics-in-clinical-trials/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	<p>Clinical trials are studies performed on human beings. Conducting trials in humans and applying the results on large populations requires specific methods. The participation of humans in research presents not only technical problems but also ethical issues, some of which are discussed in this course. The benefit of collaboration between Patient Organisations and scientific stakeholders in the design and conduct of clinical studies is well established. In order to allow an early and in-depth collaboration, using the same vocabulary and concepts is highly important. The aim of this course is to familiarise yourself with the words and the main questions of the ethical aspects of clinical studies. To complete this course, you need to read through the lesson below. At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion.</p>

Title	Ethics of Artificial Intelligence
Link	https://www.coursera.org/learn/ethics-of-artificial-intelligence
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#National Initiative
Target audience	#Students

Language	#English
Objectives	Italy's largest scientific and technology university institute offers the online course "Ethics of Artificial Intelligence," catering to beginners. In under 4 hours, participants explore the ethical challenges posed by AI in various sectors, including autonomous vehicles, digital warfare, digital medicine, privacy, biases, sustainability, and governance. Case studies and ethical frameworks are used to address these issues, enhancing critical thinking and the ability to analyze AI's ethical and societal implications. Upon completion, learners can confidently discuss ethical analysis in AI, understand its implications, and apply ethical principles in their professional context.

Title	GATEKEEPER WEBINAR - Ethics and regulations of artificial intelligence in health and care platforms
Link	https://www.youtube.com/watch?v=stpj1oA9TjY
Type	#Video
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon Europe
Target audience	#General Population
Language	#English
Objectives	A webinar meant to discuss health and data, ethics, and regulations, within the scope of the Gatekeeper project.

Title	Philosophy and Technology
Link	https://e4you.org/es/moocs/filosofia-y-tecnologia
Type	#Online learning platform #App
Access	#Open access (requires sign-up)
Price	#Free

Certification	#No certification
Source	#National initiative
Target audience	#General Population
Language	#Spanish
Objectives	Learn about the impact of emerging technologies and their use in society and human behavior, from logic, rhetoric, anthropology or computer science. Base your knowledge on cybersecurity. All students who follow the course will receive a "Certificate of Attendance" in digital format from the BISITE Research Group of the University of Salamanca, the Air Institute Foundation and the IoT Digital Innovation Hub, at no cost. Those who want to obtain an aptitude diploma or "Certificate of Improvement" from the BISITE Research Group, the General Foundation of the University of Salamanca and the University of Salamanca, the IoT Digital Innovation Hub and the Air Institute Foundation, may also request it in digital or printed format.

Title	Power, Wealth and Tech: Political power and the state: repression, choice, obedience
Link	https://e4you.org/es/moocs/power-wealth-and-tech
Type	#Online learning platform #App
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#National initiative
Target audience	#General Population
Language	#English
Objectives	In this course you will be introduced to the problem of power and wealth in its historic development. We will discuss the origins of the state, the nature of the political order, and the relationship between capitalism and socialism, authoritarianism and democracy. The focus of analysis is comparative and theoretical. I will be drawing on both classic writers and modern scholars. We will seek to answer such questions as: what is power? What are its origins and driving forces? What do we know about the origins of the state? While the concept and the reality of political power will

	<p>be the main foci of analysis, we will also discuss power generally speaking, the problem of anarchy and lawlessness, war-making and state-making, authority and legitimacy. The course will touch upon different forms of rule, as described by classic thinkers, and pose the question about the relationship between power and wealth, or, in other words, political power and economic power. This will bring us to the consideration of modern society's main problem-solving instruments and forms of social organization: capitalism and democracy. We will consider the role that the capitalist state plays in the organization of economic life and the maintenance of capitalist patterns of wealth accumulation, distribution and control. The course will also touch on such issues as social inequality, elites and masses, power and ethics, opening debate on potential threats that disruptive technologies may present to democracies. The learning objectives include getting a better appreciation of such concepts as: 1) State, power, and wealth; 2) Capitalism and democracy; 3) socialism and communism, 4) Liberalism and democracy, 5) Individualism and collectivism, 6) Modern technology and democracy</p>
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Title	Social Media in Healthcare: Opportunities and Challenges
Link	https://www.futurelearn.com/courses/social-media-in-healthcare
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#Private initiative
Target audience	#Health care professionals #General population #Researchers
Language	#English
Objectives	<p>Understand how social media is used in healthcare, to improve communication and information sharing, with this free online course.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe what social media is in the context of healthcare. • Interpret what is good or bad through social media. • Reflect on the patient's role in modern healthcare ecosystems.

Scaling up models

Title	INNOVATION SCALE-UP MODEL AND ROADMAP
Link	https://innovation4ageing.tehnopol.ee/wp-content/uploads/2022/10/Final_IN-4-AHA-scale-up-model-and-roadmap-22-10-27_final.pdf
Type	#Report
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Horizon 2020
Target audience	#Companies
Language	#English
Objectives	The scale-up model is a tool meant for companies, especially SMEs, and industry support organisations. The model will be most beneficial if the company's solution already has some proof of feasibility. The proposed scale-up model takes the company through five phases, from gathering preliminary information to ramping up on the target market. Although presented in a linear sequence, the company may need to move back and forth through the model, repeat some components and skip others as new information is acquired.

Title	Scaling up projects and initiatives for better health: from concepts to practice
Link	https://www.who.int/europe/publications/i/item/9789289051552
Type	#Report
Access	#Open access
Price	#Free
Certification	#No certification
Source	#WHO
Target audience	#Companies
Language	#English

Objectives	Scaling up means to expand or replicate innovative pilot or small-scale projects to reach more people and/ or broaden the effectiveness of an intervention. Based on a narrative literature review and a survey targeting key informants from 10 WHO Member States that are also members of the Regions for Health Network (RHN), this publication addresses practical challenges and provides a tool box for scaling up activities. This publication integrates and describes tools from different practical guidelines. It is structured in line with a scaling-up guideline developed for New South Wales (Australia). Using all of the presented tools in a systematic manner is often not possible for practitioners. But with references to frameworks, models and practical experiences, WHO and RHN hope to raise awareness of critical promoting or hindering factors, to encourage utilization of supportive tools, and to promote the further exchange of experiences and practical knowledge.
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Title	Scaling innovations emerging from public-private partnerships
Link	https://shorturl.at/asAX9
Type	#Report
Access	#Open access
Price	#Free
Certification	#No certification
Source	#IMI
Target audience	#Companies
Language	#English
Objectives	IMI's public-private partnership (PPP) model has resulted in powerful fit-for-purpose solutions, or assets, with the potential to transform the healthcare industry and improve patient outcomes on a global scale. As PPPs plan for scale in a multi-stakeholder environment they must consider a wide variety of factors well beyond a standard startup or commercial product. The following field manual provides highlevel, actionable guidance - combining leading models from both the public and private sectors ¹ - to help PPPs systematically and strategically chart their scale-up pathway. It is best applied early in a project's life cycle, and encourages an agile approach that adapts to the shifting healthcare landscape. As with any journey, one must first clarify where they are headed, broadly scan for opportunities and obstacles, and have an

	actionable plan to navigate the terrain ahead. This approach is described in further detail on the following pages with a specific emphasis on components that are not typically considered in traditional business planning processes. Examples from other IMI projects are also included to provide context and share learnings.
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Soft Skills for Health Care Professionals and Informal Carers

Title	A Community-Based Participatory Framework to Co-Develop Patient Education Materials (PEMs) for Rare Diseases: A Model Transferable across Diseases.
Link	https://novaresearch.unl.pt/en/publications/a-community-based-participatory-framework-to-co-develop-patient-e
Type	#Scientific publication
Access	#Open access
Price	#Free
Certification	#No certification
Source	Falcão M, Allocca M, Rodrigues AS, Granjo P, Francisco R, Pascoal C, Rossi MG, Marques-da-Silva D, Magrinho SCM, Jaeken J, Castro LA, de Freitas C, Videira PA, de Andrés-Aguayo L, Dos Reis Ferreira V.
Target audience	#Health Care Professionals, #Students
Language	#English
Objectives	At least 50% of chronic disease patients don't follow their care plans, leading to lower health outcomes and higher medical costs. Providing Patient Education Materials (PEMs) to individuals living with a disease can help to overcome these problems. PEMs are especially beneficial for people suffering from multisystemic and underrecognized diseases, such as rare diseases. Congenital disorders of glycosylation (CDG) are ultra-rare diseases, where a need was identified for PEMs in plain language that can clearly explain complex information. Community involvement in the design of PEMs is extremely important for diseases whose needs are underserved, such as rare diseases; however, attempts to involve lay and professional stakeholders are lacking. This paper presents a community-based participatory framework to co-create PEMs for CDG, that is transferable to other diseases. A literature review and questionnaire were performed, and only four articles describing the development of PEMS for rare diseases have been

	found, which demonstrates a lack of standardized approaches. The framework and PEMs were co-developed with CDG families and will be crucial in increasing health literacy and empowering families. We will close a gap in the creation of PEMs for CDG by delivering these resources in lay language in several languages.
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Title	Behaviour change support for the self-management of chronic disease
Link	https://www.nau.edu.pt/en/course/behaviour-change-support-for-the-self-management-of-chronic-dise/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals, #Students
Language	#English
Objectives	<p>Chronic diseases are a global epidemic responsible for more than 70% of deaths worldwide. Changing and sustaining desirable healthy lifestyle behaviours are fundamental to the prevention and management of chronic diseases. Healthcare and other professionals are expected to support behaviour change for the self-management of chronic disease, including interventions to effectively improve diet, increase physical activity and adhere to chronic treatments.</p> <p>This course is a component of the Train4Health project (https://www.train4health.eu/) and its extended educational package, which comprises in addition to the MOOC, case studies and simulation software. These educational products have been produced by experts in the field, allowing for a robust learning experience applied to different areas of intervention in health and wellbeing.</p>

Title	BICEPS: Health & Financial Literacy E-learning
Link	https://is.muni.cz/do/med/el/biceps_projekt/index.qwarp

Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals
Language	#English
Objectives	The Building Financial Capability for Healthcare Professionals (BICEPS) project supports participants to acquire and develop the basic skills and competencies necessary to be successful in today's world where financial means are vital for a person's well-being as well as their health.

Title	CERTIFIED TRAINING FOR SILVER CAREGIVERS
Link	https://www.eusilvercaregivers.com/en/join-the-course
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#With certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	<p>Module 1: THE AGEING PROCESS</p> <p>Module 2: CONCEPTUALIZATION AND FOUNDATION OF ACTIVE AND HEALTHY AGING</p> <p>Module 3: IDENTIFICATION OF GOOD PRACTICES AND METHODOLOGIES OF EDUCATION REFERRED TO THE ELDERLY</p> <p>Module 4: SOCIAL SKILLS AND ASSOCIATIVE NETWORKS OF OLDER PEOPLE. SOME EXAMPLES</p> <p>Module 5: TECHNOLOGY FOR THE ELDERLY</p>

	<p>Module 6: PROMOTING THE ACTIVE LIVES OF OLDER PEOPLE: SOCIAL ENTREPRENEURSHIP</p> <p>Module 7: HEALTHY ENVIRONMENTS FOR OLDER PEOPLE IN THE FRAMEWORK OF THE SILVER ECONOMY</p> <p>Module 8: HOW TO DEAL WITH A CONTEXT OF CRISIS AND DISASTERS</p> <p>CERTIFICATION</p>
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Title	Conflict of interest in patient engagement
Link	https://openacademy.eurordis.org/courses/conflict-of-interest-in-patient-engagement/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	<p>This online course aims to raise awareness among patients and the engaging stakeholder organisations on the consequences that different patient engagement activities might have on patients. You will learn about best practices related to multi-stakeholder interactions and how each stakeholder could better manage competing interests, and help avoid/minimise conflict of interest by suggesting risk mitigation strategies. This course is based on one of the main outcomes of the IMI-funded multi-stakeholder consortium PARADIGM (Patients active in research and dialogues for an improved generation of medicines). The Patient Engagement Toolbox centralises all PARADIGM's co-created recommendations, tools and relevant background information to make patient engagement in medicines development easier for all. This course focuses on the specific guide: Raising awareness on managing competing interests in a multi-stakeholder environment: Guidance to patients and engaging stakeholders. The first part covers general considerations applicable to all relevant stakeholders and the second part gives specific examples of patient and patient organisations, medicines developers and regulatory and HTA bodies. At the end of some of the lessons,</p>

	you'll find a set of scenarios that will help you hone critical-thinking skills and apply the knowledge gained. Learning Objectives: 1) understand the difference between competing interests and conflicts of interests; 2) learn how to assess the impact they may have on the process of engagement; and, 3) how to manage competing interests using risk mitigation strategies.
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Title	Dementia: Respect and Respite (DCare)
Link	https://dcare.training/courses/informal-carers/ https://dcare.training/courses/professional-specialists/ https://dcare.training/dementia-friendly-activities/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Informal Carers
Language	#English
Objectives	Develop an approach of care to help people who experience psychosocial difficulties as a result of dementia, to improve their wellbeing, and gain confidence with engaging socially 1) Train health care professionals and care givers, 2) Improve knowledge on this disease and its consequences and to reflect together on the best means of preserving quality of life, autonomy and the rights of people living with dementia, 3) Contribute to the wellbeing of persons with dementia, by improving the knowledge and skills and developing preventive and care recommendations to their caregivers (professionals or nonprofessionals)

Title	Developing Digital Data literacy
Link	https://d3.youthmetre.eu/outputs/module-translations/
Type	#Online learning platform
Access	#Open access
Price	#Free

Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Informal Carers
Language	#English #German #Dutch #Italian #Greek #Spanish
Objectives	1. Promote the use digital technologies and open data tools in learning and teaching. 2. Increase the capacity of learning and teaching to integrate democratic engagement considerations into educational plans and strategies. 3. Establish suitable styles of learning to access and integrate open data into schools and 4. Improve educational stakeholders' response to the need for data and information literacy in schools and teacher training.

Title	ehealth Literacy Learning skills among Nurses working with older people
Link	https://elily2.com/course/index.php?categoryid=5 https://elily2.com/ https://ec.europa.eu/programmes/erasmus-plus/project-result-content/b981169c-3b78-4ccf-a44c-96ec8ef20654/TRAINERS_MANUAL.pdf
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals (nurses)
Language	#English #Polish #Greek #Czech #Lithuanian
Objectives	People with low health literacy make higher use of healthcare services, do not follow treatment plan, stay longer in Hospital, do not follow preventive strategies and have lower self-efficacy. The eLily2 project aims to train nurses caring for the older adults and nursing students to identify low health and ehealth literacy level and to empower them. As part of the eLILY2-RN project, a blended training programme (class sessions and eLearning course) was developed for nurses and nursing students by expanding the existing knowledge developed as part of the eLILY project "eHealth

	<p>Literacy Learning skills among informal carers of older people and people with Dementia". The eLILY2 project focuses on enhancing the knowledge and skills and providing the tools for nurses to:</p> <ol style="list-style-type: none"> 1. Identify and understand the healthcare service users with low-level Health and eHealth. Literacy: common signs, tools used to measure health literacy and eHealth literacy, impact on patients' outcomes, to increase awareness of the role of health literacy for patient safety. 2. Communicate and educate health service users to increase their empowerment and health-related self-efficacy (verbal and written communication methods and verification of patients' understanding) 3. Enhance eHealth literacy skills among nurses and nursing students.
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Title	Embracing DEmeNtia
Link	https://erasmus-plus.ec.europa.eu/projects/search/details/2018-1-DK01-KA204-047123 https://embracingdementia.eu/
Type	#Online Learning Platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Informal carers #General population
Language	#English #Danish #Dutch #Italian #Spanish
Objectives	<p>The Embracing Dementia Learning Platform has four target group entrances and each of those are organised according to the structure of materials from IO 2: Learning and Information material.</p> <p>The main objective of the materials was to provide knowledge, awareness or support living and dealing with dementia regardless of whether it is a family member, a volunteer or oneself. There are developed criterias for the selection of existing materials into following areas:</p> <ul style="list-style-type: none"> • To be able to cope with the future

	<ul style="list-style-type: none"> • To feel supported and collaborate with others • To be socially included • To understand and cope with dementia <p>By this, the platform not only brings along information and learning materials for each target group, it also supports common access to the materials of the other groups supporting common understanding and collaboration.</p>
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Title	EM-MA: EMotional MAnagement exercises for adults
Link	https://drive.google.com/file/d/1sMyjBSXRZF4enQhhRseKJEl8nfxxfenc/view
Type	#Book
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals
Language	#English
Objectives	<p>1. To improve the management of emotions in the adult training process, which in consequence will positively impact the quality of their learning, inclusion and employment possibilities. 2. To expand knowledge on managing emotions in participating organizations. 3. To provide basic emotional management tools in non-formal education to adults and adult trainers in form of the Emotional Exercise Book. 4. To contribute to achieving high quality non-formal adult education by raising awareness of the importance of emotional management in this sector, especially targeting its decision makers. 5. To facilitate the access to the new, improved emotional management techniques to other adult trainers and adults across whole Europe</p>

Title	Fall-in-Age Project: Innovative Training for Technology-based Frailty and Falls Management
Link	https://fallinage.ist.utl.pt/course.html

	https://erasmus-plus.ec.europa.eu/projects/search/details/2018-1-PT01-KA203-047343
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health care professionals
Language	#English
Objectives	<p>Fall-in-Age is an open online course focused on the use of different biomechanical technologies/methodologies for the evaluation of frailty in elderly people, also aiming at the reduction of the number of falls and other related conditions.</p> <p>The course will be developed considering the current technologies used in clinical environments and in academia. Hence, its contents are recommended for medical doctors, nurses and other allied health professionals in the field of geriatrics and long-term care delivery, as well as researchers and students interested in these topics.</p> <p>Information on the state of the project and its contents is presented in this section. The final version of the online course will be hosted on IBV Virtual Campus (https://campus.ibv.org/).</p> <p>Course Structure</p> <p>4 Modules (3 lessons each)</p> <ul style="list-style-type: none"> Introduction, Background & Fundamental Concepts Introduction to Bodily Harm Assessment Reduction of Frailty and Fall Risk Impact of Addressing Frailty Prevention & Management Interventions on Individuals and Society Strengthen Activities Extension Activities Self-Evaluation Questionnaires Final Exam Online Support Internet forum <p>40 hours including autonomous work (~1.5 ECTS)</p>

	Approval Certificate
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Title	Health without borders
Link	https://healthwithoutborders.eu/portal_home_eng-2/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health care professionals
Language	#English
Objectives	<p>Health Without Borders project goal aims to improve health literacy skills in young migrants, refugees and marginalised youngsters in an embedded learning perspective, while promoting a set of socio educational innovative approaches for front-line youth workers to raise awareness with young migrants and refugees about the importance of health literacy in their daily lives.</p> <p>Course revolves a syllabus for professionals and includes the following modules: Module 1) Health Without Borders Health Literacy Toolkit of Resources: implementation and assessment, Module 2) The importance of a clear communication strategy in health literacy programmes with young migrants, refugees and marginalised young people, Module 3) Understand and apply the methods of gamification while working with marginalised youth, and Module 4) Understand and apply the methods of storytelling while working with marginalised youth</p>

Title	Internet of Things for Active Ageing
Link	https://www.futurelearn.com/courses/internet-aging
Type	#Online Learning Platform
Access	#Open access (requires signup)

Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Health care professionals, #Students
Language	#English
Objectives	<p>You'll learn about how older adults and clinicians manage health problems and health pain points, and how to check up-front for the real problems seniors need technological help solving.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Describe difficulties while ageing • Explore the technologies that could promote healthy ageing • Improve understanding of new technologies related to personal health

Title	Introduction to Digital Rehabilitation — MOOC
Link	https://www.jamk.fi/en/project/direne/introduction-to-digital-rehabilitation-mooc https://www.jamk.fi/sites/default/files/2023-03/Welcome%20to%20the%20Introduction%20to%20Digital%20Rehabilitation%20final.pdf
Type	#Online Learning Platform
Access	#Open access (requires signup)
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health care professionals, #Students
Language	#English #German #Greek
Objectives	This course is the final product of the multinational Erasmus+ funded DIRENE project. The course is a Massive Open Online Course (MOOC). Completing this course requires the learner to be

	<p>self-directed. The course consists of seven modules, of which five are theory-oriented and the other two are instructive and debriefing.</p> <p>The workload of this course is 2 ECTS. After completing the modules and answering the post-questionnaire, the learner will get a certificate to confirm their completion.</p> <p>The purpose of this course is to give an introduction and insight to Digital Rehabilitation. After completing the course, the learner is able to:</p> <ul style="list-style-type: none"> • explain the key terms in Digital Rehabilitation, • describe what technologies can be applied in rehabilitation, • acknowledge the factors related to eAccessibility, • identify what competences clients need to have when using digital solutions in rehabilitation, • select suitable tools for communicating with clients and with interdisciplinary teams, • explain what kind of legislation and data security issues need to be considered when using Digital Rehabilitation and • recognize possible ethical issues relating to Digital Rehabilitation. • Enrollment in the course begins on March 13, 2023, at 16:00 (CET). The MOOC will be updated and maintained for two years, until March 31, 2025.
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Title	Introduction to Medical Software
Link	https://www.coursera.org/learn/introduction-to-medical-software
Type	#Online Learning Platform
Access	#Open access (requires signup)
Price	#At a cost
Certification	#With certification
Source	#Private Initiative
Target audience	#Health care professionals
Language	#English #German #Greek
Objectives	This class provides an extensive overview of medical software, featuring Yale professors and industry experts. It covers regulatory structures, data privacy, cybersecurity, and key technologies. The course delves into the medical software life cycle, including user needs, system requirements, design, coding, testing, and

	validation. It also explores machine learning in medical applications from engineering and regulatory angles and discusses business and management aspects. Targeted at third- or fourth-year undergraduates in computer science, biomedical engineering, and software engineers in or aspiring to enter the medical device industry.
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Title	iSupport Portugal
Link	https://isupport.icbas.up.pt/home
Type	#Online Learning Platform
Access	#Open access (requires signup)
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	#Informal Carers
Language	#Portuguese
Objectives	iSupport-Portugal is an online support and training program for informal caregivers of people with dementia. This program aims to help provide quality care and take care of you. You can use iSupport-Portugal for free, through your computer/mobile phone/tablet and on days, times and places that are most convenient for you. This program consists of 23 sessions, divided into five thematic modules that address different aspects of care provision. You can do all the sessions in the program or you can choose the sessions that best suit your needs and interests, creating your personalized plan. iSupport was created by the World Health Organization (WHO) and adapted to Portugal by a research team from the Abel Salazar Institute of Biomedical Sciences of the University of Porto (ICBAS-UP), in partnership with the Alzheimer Portugal Association.

Title	MYH4D:Move your hands for dementia (Be connected MOOC)
Link	https://myh4d.eu/mooc/index.php
Type	#Online Learning Platform

Price	#Free
Certification	#No certification
Access	#Open access
Source	#Erasmus+
Target audience	#Informal Carers #Health Care Professionals
Language	#English #Italian #Bulgarian #Greek #Spanish #Croatian
Objectives	Improve your health literacy about dementia and discover in the MOOC information and resources to improve, as adult educator, knowledge, skills and competences to people living with dementia in the community in which you live.

Title	Patient Perspectives on Medications: Qualitative Interviews
Link	https://www.coursera.org/learn/patient-perspectives-on-medications-qualitative-interviews
Type	#Online learning platform
Access	#Open access (requires sign-up) #At a cost
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	<p>This course teaches you how to explore the patient perspective on medicines using qualitative interviews. You will learn how to design, conduct and analyse data in a small interview study. The course is related to the course Understanding Patient Perspectives on Medications, but each course can be taken separately.</p> <p>Please note! In this course you will carry out a small qualitative interview study and to get the most out of this endeavour, we highly recommend that you engage in the discussions: share your thoughts and experiences – and respond to the reflections and questions of your peers.</p>

Title	"Preparing health and social care workers to work with socially assistive artificially intelligent robots in health and social care environments"
Link	http://ieneproject.eu/download/IENTE10/IENTE%2010%20Intellectual%20Output%203_Learning%20Units_EN.pdf http://ieneproject.eu/learning-tools.php https://erasmus-plus.ec.europa.eu/projects/search/details/2020-1-UK01-KA202-078802
Type	#Report
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Students
Language	#English
Objectives	<p>The overall aim of IENE 10 is to develop a European Transcultural Robotic Nursing (TRN) curriculum model and learning materials suitable for training health and social care workers and educators, not only within the partnership of this project but also internationally.</p> <p>This document reports about the development of the 16 Learning Units (LU) that represent a key output of the course, divided into the four curriculum modules:</p> <ul style="list-style-type: none"> • MODULE 1 - TRN AWARENESS • MODULE 2 - TRN KNOWLEDGE • MODULE 3 - TRN SENSITIVITY • MODULE 4 - TRN COMPETENCE

Title	Recommendations on the required capabilities for patient engagement
Link	https://openacademy.eurordis.org/courses/recommendations-on-the-required-capabilities-for-patient-engagement/
Type	#Online learning platform

Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #General Population
Language	#English
Objectives	<p>This online course provides recommendations on the competencies (understood as knowledge, skills and behaviours) and resources that each stakeholder organisation should aspire to have in place in order to plan, implement and evaluate meaningful and sustainable patient engagement activities across the medicines lifecycle. This course is based on one of the main outcomes of the IMI funded multi-stakeholder consortium PARADIGM (Patients active in research and dialogues for an improved generation of medicines). The Patient Engagement Toolbox centralises all PARADIGM's co-created recommendations, tools and relevant background information to make patient engagement in medicines development easier for all. This course focuses on a specific guide: Recommendations on the required capabilities for patient engagement This online course does not address the specific competencies of the patient participants involved in patient engagement activities. Learning Objective: The objective of this online course is to increase the preparedness of stakeholder organisations by identifying the capabilities required by those individuals involved in implementing patient engagement activities and the resources (processes, tools and systems, organisational structure) needed within the organisation..</p>

Title	Registries: how can you work with existing registries or set up a registry?
Link	https://openacademy.eurordis.org/courses/registries-how-can-you-work-with-existing-registries-or-set-up-a-registry/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative

Target audience	#Health Care Professionals #Students
Language	#English
Objectives	There are many challenges that can arise when developing registries. However, these are reducing over time due to the advances in both technology and expertise. With this in mind, we have created this e-learning course with patient organisations and patient advocates. This course is developed in collaboration with key experts with extensive experience developing registries.

Title	Supporting Medicine Use by Older People with Visual and/or Hearing Impairment
Link	https://www.futurelearn.com/courses/supporting-medicine-use-by-older-people-with-sensory-impairment
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification
Source	#National Initiative
Target audience	#Health Care Professionals #Students #Informal carers
Language	#English
Objectives	<p>Examine the medicine-related challenges that older people with sensory impairment experience and how we can improve their care.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Discuss sensory loss and impairment. • Summarise the medicines management needs of older people (including risks and vulnerabilities). • Describe the medicines management challenges faced by older people with sensory loss and impairment. • Identify effective strategies to support safe and effective person-centered medicines management for older people with sensory impairment and loss. • Practice person-centered medicines management support for older people with sensory loss and impairment.

Title	TENDER4LIFE project
Link	https://erasmus-plus.ec.europa.eu/projects/search/details/2018-1-IT01-KA202-006769 https://www.tender4life-project.org/b-learning-course.html
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Students #Informal carers
Language	#English #Italian #Finnish #Portuguese #Greek #Romanian
Objectives	<p>The project TENDER4LIFE aimed to promote the professional development of adults (predominantly low-skilled) working in elderly care, by providing them with a complementary and alternative curriculum, based on humanistic approach. The learning modules include the following topics:</p> <ul style="list-style-type: none"> • Autonomy • Quality of Life • Compassionate care • Respecting the Dignity • Privacy • E-Health • Communication and Collaboration

Title	Training on Dementia for Direct Care Workers
Link	https://www.udemy.com/course/training-on-dementia-for-direct-care-workers/ https://erasmus-plus.ec.europa.eu/projects/search/details/2017-1-SE01-KA202-034585
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free

Certification	#No certification
Source	#Erasmus+
Target audience	#Health Care Professionals #Informal carers
Language	#English, #Greek, #Italian, #Lithuanian, #Portuguese, #Swedish
Objectives	<p>This MOOC includes multimedia training contents for direct care workers, based on internationally recognized good practices in dementia care. The design and development of the MOOC contents involved direct care workers, people with dementia and family carers to include their perspective, therefore stimulating direct care workers to reflect on their daily practice and how to best meet their patients' needs.</p> <p>You will also be able to put into practice what you have learned during the course by playing a free serious game about caregiving with people with dementia. Check the Bonus Lecture for more info on this.</p> <p>Please be aware that the course includes some testimonials in other languages. Nevertheless, Closed Caption (subtitles) in English are always available for these lectures.</p>

Scientific frameworks in Human Health

Title	Artificial Intelligence in Epigenetic Studies: Shedding Light on Rare Diseases
Link	https://novaresearch.unl.pt/en/publications/artificial-intelligence-in-epigenetic-studies-shedding-light-on-r
Type	#Scientific Publication
Access	#Open access
Price	#Free
Certification	#No certification
Source	Brasil S, Neves CJ, Rijoff T, Falcão M, Valadão G, Videira PA, Dos Reis Ferreira V.
Target audience	#Health Care Professionals #Students #Researchers
Language	#English

Objectives	<p>More than 7,000 rare diseases (RDs) exist worldwide, affecting approximately 350 million people, out of which only 5% have treatment. The development of novel genome sequencing techniques has accelerated the discovery and diagnosis in RDs. However, most patients remain undiagnosed. Epigenetics has emerged as a promise for diagnosis and therapies in common disorders (e.g., cancer) with several epimarkers and epidrugs already approved and used in clinical practice. Hence, it may also become an opportunity to uncover new disease mechanisms and therapeutic targets in RDs. In this “big data” age, the amount of information generated, collected, and managed in (bio)medicine is increasing, leading to the need for its rapid and efficient collection, analysis, and characterization. Artificial intelligence (AI), particularly deep learning, is already being successfully applied to analyze genomic information in basic research, diagnosis, and drug discovery and is gaining momentum in the epigenetic field. The application of deep learning to epigenomic studies in RDs could significantly boost discovery and therapy development. This review aims to collect and summarize the application of AI tools in the epigenomic field of RDs. The lower number of studies found, specific for RDs, indicate that this is a field open to expansion, following the results obtained for other more common disorders.</p>
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Title	Benefit-risk assessment and pharmacovigilance
Link	https://openacademy.eurordis.org/courses/benefit-risk-assessment-pharmacovigilance/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	<p>All medicines carry a certain level of risk. In this course, you can learn more about how medicines are evaluated to ensure that their benefits outweigh their risks. This ensures that the chances of a medicinal product affecting the body in unintended, harmful ways is limited as much as possible. Once medicinal products are approved for the market, pharmacovigilance methods are used to report negative side effects or adverse drug reactions. To complete this course, you need to read through all the lessons</p>

	below. At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion. Before accessing the lessons you may want to become familiar with the key terms of the course by downloading the glossary document: https://openacademy.eurordis.org/wp-content/uploads/2020/02/PHARMACOVIGILANCE-GLOSSARY.pdf
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Title	EIT Health Ageing PhD School: Driving innovation in healthcare for older patients
Link	https://eithealth.eu/programmes/eit-health-ageing-phd-school/
Type	#PhD program
Access	#Reserved #At a cost
Price	#At a cost
Certification	#With certification
Source	#EIT Health
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	The EIT Health Ageing PhD School is an international program aimed at training a new generation of PhD specialists in aging. It offers innovation and entrepreneurship training, international mobility, and co-mentorship for PhD theses. Participants gain real-world experience and access a network of top-level universities across Europe. The program fosters entrepreneurship, innovation, creativity, and leadership skills. Applicants must be PhD students registered in selected programs, willing to complete specific ECTS requirements, and committed to the program's goals. The program offers the EIT label supplement to graduates' diplomas.

Title	Exploring the Mysteries of Life: An Introduction to Cell Biology
Link	https://www.nau.edu.pt/en/course/exploring-the-mysteries-of-life-an-introduction-to-cell-biology/
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#Free

Certification	#No certification
Source	#Erasmus+
Target audience	#Students #Researchers
Language	#English
Objectives	<p>In this course, we will embark on a journey into the fascinating world of cells. Cells, the fundamental units of life, are the building blocks of all living organisms. Understanding their structure, functions, and processes is crucial for comprehending the intricate mechanisms that govern life itself.</p> <p>Cells are remarkable entities, each carrying out complex tasks that sustain life. By studying cell biology, you will gain insights into the underlying mechanisms of processes such as cell division, metabolism, and DNA replication. This knowledge unravels the mysteries of life itself and allows us to appreciate the intricacies of the natural world.</p> <p>Cell biology is not confined to the realm of academia; its applications extend into diverse fields. By understanding cell biology, you will be better equipped to pursue careers in medicine, biotechnology, pharmaceuticals, genetics, and bioengineering. Moreover, it provides a strong foundation for understanding diseases and their treatments, as many diseases manifest at the cellular level.</p> <p>This MOOC was developed in the context of the ERASMUS+ funded project "VIBE: Virtual Biomedical and STEM/STEAM Education". The partners in this project are the University of Porto, University of Pécs, DEX Innovation Centre and Politechnika Slaska.</p>

Title	From research to therapies
Link	https://openacademy.eurordis.org/courses/from-research-to-therapies/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative

Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	To complete this course, you need to read through all the lessons: Lesson 1: Drug repurposing as a strategy for RD charities, Lesson 2: Gene/Advanced therapies on the market, Lesson 3: Strategy of POs in driving research from lab to therapies At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion.

Title	Genome editing
Link	https://openacademy.eurordis.org/courses/genome-editing/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	Lesson 1: Introduction, Lesson 2: What is genome editing? The science and beyond, Lesson 3: Ethical, legal and social issues, Lesson 4: Perspectives of the biotech sector and regulatory aspects. At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion.

Title	Genetic research to clinical diagnosis of Rare Diseases
Link	https://openacademy.eurordis.org/courses/medical-research-development/
Type	#Online learning platform
Access	#Open access
Price	#Free

Certification	#No certification
Source	#Private initiative
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	Many aspects of medical research concern problem solving and asking the right questions. In this course, you will be able to learn more about the process of medicine discovery, such as pre-clinical testing, clinical trials and the methodology and statistics used in medicine development, including evidence based medicine, blinding and study protocol. This course also includes training on the development of medicines for small populations. To complete this course, you need to read through all the lessons below. At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion.

Title	OpenWHO.com
Link	https://openwho.org/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	Launched in 2017 by the Learning and Capacity Development Unit of the WHO Health Emergencies Programme, OpenWHO is the WHO's free and open-access platform serving frontline workers, healthcare professionals, policy makers and any person interested in learning about public health. Designed to improve the global response to health emergencies, OpenWHO offers self-paced, multilingual courses adapted from WHO scientific and operational guidance. Evidence-based learning resources are presented in tailored, low-bandwidth formats that can be easily adapted, contextualized, and translated.

	As the hub of WHO's COVID-19 learning resources, OpenWHO has seen an exponential increase in students and expanded public health knowledge to hard-to-reach areas and underrepresented groups, promoting equity through online learning . OpenWHO also recognizes the importance of continuing professional development (CPD) and offers CPD-accredited courses as part of the WHO health emergencies core curriculum.
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Title	PERMIT Recommendations training
Link	https://survey.ecri.org/surveys/?s=AL94WPNJKYFAALJ4
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	Training is essential to ensuring that best practices are shared across our user communities. ECRIN develops dedicated training and webinars for different stakeholder groups. These range from its CTU network, to principal investigators and sponsors to consortia and affiliated partners in ECRIN supported projects. The training focuses on ECRIN's core expertise in the development and coordination of multinational clinical research projects. Through the training, we aim to highlight the existing difficulties and provide the learners with tools to overcome them. Training may also address issues related to data sharing across borders, including the sharing of sensitive data. ECRIN also partners with other organisations to offer dedicated training to its community. This included a joint training between EMA and ECRIN offered to the ECRIN CTU community, Implementation of the Clinical Trial Regulation (EU) No 536/2014 for academia. For training that looks at specific aspects of clinical trials, not related to the multinational nature of a trial, we suggest you look to your national network as they have a wide offer of available training.

Title	Porto4Ageing's series on Adherence
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Link	https://t.ly/tcn11
Type	#Video
Access	#Open access
Price	#Free
Certification	#No certification
Source	#National Initiative
Target audience	No description
Language	#English
Objectives	No description

Title	Statistics in medicines research and development
Link	https://openacademy.eurordis.org/courses/statistics-medicines-research-development/
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#No certification
Source	#Private Initiative
Target audience	#Health Care Professionals #Students #Researchers
Language	#English
Objectives	This course provides an understanding of some basic aspects of statistics and their application to clinical trials. To complete this course, you need to read through all the lessons below. At the end of the course, once you have taken the final quiz, you will be able to download and print your certificate of completion.

Urbanization and Health

Title	City Liveability: The Intersections of Place, Mobility, and Health
Link	https://www.futurelearn.com/courses/liveable-cities-place-health-and-mobility
Type	#Online learning platform
Access	#Open access
Source	#EIT Urban Mobility
Price	#At a cost
Certification	#With certification
Target audience	#Researchers #General Population
Language	#English
Objectives	<p>Understand how places, urban mobility and health impact each other, and use your knowledge to design sustainable cities.</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • Identify defining characteristics of a healthy liveable city and the role of transport for liveability • Interpret the social determinants of health and how transport relates to these indicators, especially active transport • Investigate the causal relationship between mobility and health • Explore the key principles and relationships between mobility and health with the goal to inspire the need for change

Title	Urbanisation and Health MOOC: Promoting Sustainable Solutions
Link	https://eithealth.eu/programmes/urbanisation-and-health-mooc/ https://www.coursera.org/learn/urbanisation-health-promoting-sustainable-solutions
Type	#Online learning platform
Access	#Open access
Price	#Free
Certification	#With certification

Source	#EIT Health
Target audience	#Health Care Professionals #General Population
Language	#English #German #Dutch #Italian #Greek #Spanish
Objectives	Researchers and stakeholders in urban planning will introduce cases from cities in Denmark, Spain, Portugal and many other urban settings across the world in order to further interdisciplinary knowledge on urbanisation and health. The programme is set out across 5 modules: 1) How Urbanisation, Health and Urban Planning Relate, 2) Ageing and Gentrification, 3) Nature-based Solutions, 4) Innovative Solutions, 5) Innovation and Communication

Title	Inclusive Mobility for an Ageing Population
Link	https://www.futurelearn.com/courses/inclusive-mobility-for-an-ageing-population
Type	#Online learning platform
Access	#Open access
Source	#EIT Urban Mobility
Price	#At a cost
Certification	#With certification
Target audience	#Researches #General Population
Language	#English
Objectives	<p>Learn how to prepare cities to meet the needs of an ageing population while remaining inclusive and equitable</p> <p>By the end of the course, you'll be able to...</p> <ul style="list-style-type: none"> • demonstrate an understanding of ageing as a life-long process • develop an understanding of how urban and transport planning can provide for the ageing population • evaluate the factors that influence travel behaviour • investigate strategies that support transport system changes for inclusion, considering all modes of transport • apply approaches to citizen engagement in urban development

	<ul style="list-style-type: none"> explore on-ground implementation through specific case studies.
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Title	SmartCities
Link	https://e4you.org/es/moocs/smartcities
Type	#Online learning platform #App
Access	#Open access (requires sign-up)
Price	#Free
Certification	#No certification
Source	#National initiative
Target audience	#General Population
Language	#Spanish
Objectives	<p>This course is part of C1b3rwall Academy. This training action is divided into 2 sections with the most relevant and most current subjects of interest in the field of Smart Cities. All students who follow the course will receive a "Certificate of Attendance" in digital format from BISITE Research Group of the University of Salamanca, Air Institute Foundation and the IoT Digital Innovation Hub, at no cost. Those who want to obtain a diploma of aptitude or "Certificate of Compassing" from BISITE Research Group, Fundación General de la Universidad de Salamanca and Universidad de Salamanca, IoT Digital Innovation Hub and Fundación Air Institute, can also apply in digital or printed format.</p>

Title	Urban Mobility for Liveability
Link	https://www.futurelearn.com/courses/urban-mobility-for-liveability
Type	#Online learning platform
Access	#Open access (requires sign-up)
Price	#At a cost
Certification	#With certification

Source	#EIT Urban Mobility
Target audience	#Researchers #General Population
Language	#English
Objectives	<p>Discover how transforming city built environments and mobility access can lead to healthier cities and communities.</p> <ul style="list-style-type: none"> • By the end of the course, you'll be able to... • Analyse new liveability frameworks linked to the social determinants of health, involving explicit consideration of health, equity, sustainability and quality of life^{[1][2]}_[SEP]. • Apply these frameworks through indicators to support evidence-based decision-making in policy and programs. • Measure interventions and economic benefits associated with mobility and health. • Expand considerations to multiple benefits of safety, social connection and belonging, cultural expression and environmental health^{[1][2]}_[SEP]. • Explain qualitative indicators to measure grounded and diverse perspectives associated with a locality^{[1][2]}_[SEP]. • Consider on-ground implementation through specific examples and encouraging collaboration and community engagement in co-design.

Bibliography

- [1] N. Gasteiger, S. N. v. d. Veer, 4. P. W. 2 and D. Dowding, "Upskilling health and care workers with augmented and virtual reality: protocol for a realist review to develop an evidence-informed programme theory," *BMJ Open*, pp. doi: 10.1136/bmjopen-2021-050033, 2021.
- [2] OECD, "Empowering the health workforce, Strategies to make the most of the digital revolution," 2020.
- [3] E. Comission, "Shaping Europe's digital future - Digital skills and jobs," [Online]. Available: <https://digital-strategy.ec.europa.eu/en/policies/digital-skills-and-jobs>.
- [4] E. Parliament, "Digital Skills for health professionals," <https://www.healthparliament.eu/wp-content/uploads/2017/09/Digital-skills-for-health-professionals.pdf>, 2016.
- [5] WHO, "Global strategy on digital health 2020-2025," <https://www.who.int/docs/default-source/documents/gd4dhdaa2a9f352b0445bafbc79ca799dce4d.pdf>, 2021.
- [6] A. Gentili, G. Failla, A. Melnyk, V. Puleo, G. L. D. Tanna, W. Ricciardi and F. Cascini, "The cost-effectiveness of digital health interventions: A systematic review of the literature," *Frontiers in Public Health*, no. 10.3389/fpubh.2022.787135; <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9403754/>, 2022.
- [7] Europeam Commision, "Public Health - Overview: Digital Health and Care," no. https://health.ec.europa.eu/ehealth-digital-health-and-care/overview_en.
- [8] Y. Chen and A. Banerjee, "Improving the digital health of the workforce in the COVID-19 context: an opportunity to future-proof medical training," *Future Healthcare Journal*, no. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7571768/>, 2020.
- [9] I. Marques and J. Ferreira, "Digital transformation in the area of health: systematic review of 45 years of evolution," *Health and Technology*, no. 10.1007/s12553-019-00402-8.
- [10] A. Haleem, M. Javaid, R. P. Singh and R. Suman, "Medical 4.0 technologies for healthcare: Features, capabilities, and applications," *Internet of Things and Cyber-Physical Systems*, no. <https://doi.org/10.1016/j.iotcps.2022.04.001>, 2022.
- [11] C. Müller, T. Mildenerberger and D. Steingruber, "Learning effectiveness of a flexible learning study programme in a blended learning design: why are some courses more effective than others?," *International Journal of Educational*

- Technology in Higher Education* volume, no. <https://doi.org/10.1186/s41239-022-00379-x>, 2023.
- [12] J. D. Galanek and D. C. Gierdowski, "ECAR Study of Faculty and Information Technology," EDUCAUSE CENTER FOR ANALYSIS AND RESEARCH, 2019.
 - [13] S. C. Cobb, "Internet continuing education for health care professionals: An integrative review," *Journal of Continuing Education in the Health Professions*, no. 10.1002/chp.1340240308, 2004.
 - [14] S. P. Dahlen and K. Hanson, "In Their Words: Student Reflections on Information-Seeking," *The Journal of Academic Librarianship*, no. <https://doi.org/10.1016/j.acalib.2023.102713>, 2023.
 - [15] A. Ho, J. Reich, S. Nesterko, D. Seaton, T. Mullaney, J. Waldo and I. Chuang, "HarvardX and MITx: The First Year of Open Online Courses, Fall 2012-Summer 2013," *HarvardX and MITx Working Paper No. 1*, no. <http://dx.doi.org/10.2139/ssrn.2381263>, 2014.
 - [16] P. Delgado, Ø. Anmarkrud, V. A. Clemente, L. Altamura, S. m. Chireac, A. Pérez and L. Salmerón, "Learning from text and video blogs: comprehension effects on secondary school students," *Education and Information Technologies*, no. 10.1007/s10639-021-10819-2, 2021.
 - [17] J. Zhu, H. Yuan, Q. Zhang, P.-H. Huang, c. a. Yongjie Wang, S. Duan, M. Lei, E. G. Lim and P. Song, "The impact of short videos on student performance in an online-flipped college engineering course," *Humanit Soc Sci Commun*, no. doi: 10.1057/s41599-022-01355-6, 2022.
 - [18] Harvard Business School, "Value Based Health Care - Key Stakeholders," [Online]. Available: <https://www.isc.hbs.edu/health-care/value-based-health-care/key-stakeholders/Pages/default.aspx>.
 - [19] I. Insights, "Value-Based Care Meets Shareholder Value," 2023, [Online]. Available: <https://insights.issgovernance.com/posts/value-based-care-meets-shareholder-value/>.
 - [20] O. L. M. J. Yong PL, "Institute of Medicine (US) Roundtable on Value & Science-Driven Health Care: Value in Health Care: Accounting for Cost, Quality, Safety, Outcomes, and Innovation.," *National Academies Press (US)*, no. doi: 10.17226/12566, 2010.
 - [21] E. Teisberg, S. Wallace and S. O'Hara, "Defining and Implementing Value-Based Health Care: A Strategic Framework," *Academic Medicine*, no. 10.1097/ACM.0000000000003122, 2020.
 - [22] "Defining the Players in Value-Based Healthcare," 2020, [Online]. Available: <https://www.drjonathanelen.com/blog/defining-the-players-in-value-based-healthcare>.



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