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## POLICY BRIEF

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### Presentation

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INSTrUCT is an ERASMUS+ funded project with the participation of seven different higher education institutions from four European countries [Catalan Institute of Oncology (Spain); University of Navarra (Spain); University of Barcelona (Spain); University of Lleida (Spain); King's College (United Kingdom); Erasmus Hogeschool Brussel (Belgium); Université Libre de Bruxelles (Belgium); Nursing School of Coimbra (Portugal)] working on the development of an online open course on smoking cessation for healthcare professionals.

Our main aim is to provide an Open Educational Resource combining theoretical modules and virtual simulation, to improve students' competencies to ultimately provide tailored and efficient smoking cessation interventions (please visit the following link: <https://instruct-elearning.eu/>).

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### Why is it important?

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Smoking is a preventable and silent epidemic responsible for nearly eight million deaths per year (World Health Organization [WHO], 2019). Tobacco consumption is also a significant factor in reducing the quality of life and life expectancy by 14 years on average (European Commission, 2021) and, therefore, urgent action is required.

Although psychosocial and pharmacological interventions (Martínez et al., 2021) for smoking cessation have proven to be highly effective for people who smoke (West et al., 2015), general smoking cessation support programs, as well as the specific ones provided by health professionals in the European region, appear suboptimal. (Duaso et al., 2017; Filippidis et al., 2014).

Healthcare professionals are key to initiating and supporting opportunities for smoking cessation interventions. Several editions of the Global Health Professions Student Survey (GHPSS) - conducted among third-year students pursuing advanced degrees in dentistry, medicine, nursing, and pharmacy- indicate that less than 40% of the students received tobacco cessation training. The international scientific literature indicates that in most cases, health professionals' curricula lack the appropriate content and training on tobacco-related activities. National surveys (for different disciplines) underline that while the harms of smoking are widely taught, limited efforts are devoted to the practical aspects of training, which means an important challenge for those professionals willing to support smokers in their process of quitting tobacco.

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### What does the INSTrUCT resource entail?

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Considering the issues just presented above, the main objective of the INSTrUCT innovative open educational resource (OER) is to prepare healthcare students in applying interventions to help and support smoking cessation. The INSTrUCT resource provides a wide range of innovative learning and assessment activities to improve students' knowledge and skills in smoking cessation in a comprehensive manner. INSTrUCT is delivered, and subsequently assessed virtually and students can freely follow this resource at their own ease.

The INSTrUCT OER entails a 30-hour online course on "Brief Intervention in Smoking Cessation" structured in five theoretical modules (with an approx. dedication of 5 hours), five videos (approx. dedication of 1-2 hours), and three virtual simulation cases (approx. dedication of 1-2 hours). Additional student work has been estimated in between 19-21 hours of individual work, and two

hours dedicated to the final assessment. The content of this program was theoretically driven and was based on the most recent evidence-based recommendations and guidelines on the topics explored (as suggested by the United States Department of Health & Human Services action guide; the NICE guidelines and the MPOWER guide). The learning objectives, the competences to be acquired, and the methodological strategies employed are shown in supplementary Table 2. The program was based on a previous "Brief Smoking Cessation Intervention" program developed for healthcare professionals (Martínez et al., 2019; Martínez et al., 2020), led by *Institut Català d'Oncologia* (ICO). The content of this program was theoretically driven and was based on the most recent evidence-based recommendations and guidelines on the topics explored (as suggested by the United States Department of Health & Human Services action guide; the NICE guidelines and the MPOWER guide). The learning objectives, the competences to be acquired, and the methodological strategies employed are shown in supplementary Table 2. The program was based on a previous "Brief Smoking Cessation Intervention" program developed for healthcare professionals (Martínez et al., 2019; Martínez et al., 2020). The INSTRUCT resource is currently available in four languages: Spanish, English, French and Portuguese. The specific objectives and methodological strategies used in this course can be seen in the next Table 1.

PROOF

**Table 1: Specific goals of the course, training activities and evaluation method (Pardavila-Belio et al., 2021)**

<b>Specific goal/Results of learning</b>		<b>Training activities (materials and resources)</b>	<b>Evaluation method</b>
<b>The following capabilities of the student will be evaluated:</b>			
<b>KNOWLEDGE</b>			
1.	Identifying tobacco consumption as a public health problem (epidemiology, associated tobacco diseases)	Training material - Module 1	Objective test
2.	Indicating the effective policies to stop the smoking epidemic	Training material - Module 1	Objective test
3.	Identifying the factors associated to tobacco consumption	Training material - Module 1	Objective test
4.	Recognizing the basic epidemiological measures allowing to describe the magnitude of the smoking epidemic	Training material - Module 1	Objective test
5.	Identifying the available tools to perform the diagnosis of a smoker	Training material - Module 2 (Case study)	Objective test
6.	Determining the stages of change of the smoker based on the Prochaska and Diclemente Model	Training material - Module 2	Objective test
7.	Recognizing the criteria for the diagnosis of tobacco addiction (dependence, tolerance, withdrawal) and its symptomatology	Training material - Module 2	
8.	Describing smoking assistance in accordance with the prevention levels: primary, secondary and tertiary	Training material - Module 3	Objective test
9.	Recognizing the different levels of intervention in tobacco use at individual and community level, and recognizing their efficacy	Training material - Module 3	Objective test

10.	Identifying the educational and health resources available to promote the cessation of tobacco consumption	Training material - Module 3	Objective test
11.	Identifying the five faces of short intervention (5As) to quit smoking and recognizing their efficacy	Training material - Module 4	Objective test
12.	Recognizing the barriers (5Rs) a smoker experiences while trying to break the smoking habit	Training material - Module 4	Objective test
13.	Identifying the psychosocial aspects influencing the process of smoking cessation	Training material - Module 5	Objective test
14.	Recognizing the principles of the motivational interview	Training material - Module 5	Objective test
15.	Identifying the lines of pharmacological treatment (composition, administration, posology, indications and contraindications) and their efficacy	Training material - Module 5	Objective test
<b>SKILLS</b>			
16.	Applying the available tools to perform the diagnosis of a smoker, and explaining its results	Training material - Module 2 (Case study) Co-oxymetry scenario	Objective test and virtual simulation
17.	Applying the most effective treatments (pharmacological or not) to stop smoking, adapting them to the characteristics of each person	Training material - Module 5 (Case study)	Objective test
18.	Advising to quit smoking resolutely and rigorously, respecting the will of each person	Scenario Opportunistic Advice and Virtual Simulation	Assessment algorithm
19.	Approaching opportunistically the tobacco consumption of a patient being assisted for a different reason/cause	Scenario Opportunistic Advice and Virtual Simulation	Assessment algorithm
20.	Applying those aspects of verbal and non-verbal communication that foster a climate of trust and make the interaction with the person easier	Scenario of Opportunistic Advice and Virtual Simulation	Assessment algorithm

21.	Applying the principles of the motivational interview	Scenario Motivational Intervention and Virtual Simulation	Assessment algorithm
22.	Reorienting the patient in a smoking lapse and relapse situation	Scenario Lapse and Relapse and Virtual Simulation	Assessment algorithm
<b>ATTITUDES</b>			
23.	Gaining consciousness about their exemplary role with respect to tobacco consumption	Training material (course)	
24.	Promoting for themselves and for the smoker a proactive attitude towards breaking the smoking habit	Training material (course)	
25.	Showing a respectful and committed attitude, bearing in mind the professional ethical values-	Training material (course)	

The five theoretical modules follow the same structure: goals/objectives, core contents, exercises, videos, summary “reminder”, learning resources and further references.

- Module 1: "Tobacco as a public health problem", focuses on the tobacco's epidemiology associated to diseases, and effective non-smoking policies. The epidemiological data used was specifically adapted for each country, but all the students could access global data from the tobacco atlas (link: <https://tobaccoatlas.org/topic/prevalence/>).
- Module 2: "General concepts, tobacco products and consumption evaluation", focuses on the relation of tobacco consumption and addiction. These different tobacco and nicotine products are presented, and the assessment of smoking dependence and motivation to quit.
- Module 3: "Tobacco use management in health care setting", describes smoking cessation interventions according to the levels of prevention. It highlights key services to prevention, control and treatment of tobacco use as well as specific educational resources.
- Module 4: "Brief intervention" describes the main steps to deliver brief smoking cessation interventions (5As or 3As), and the psychological factors and barriers that may influence the tobacco cessation process.
- Module 5: "Psychological and pharmacological treatments", describes the main psychological approaches to help quit smoking, and how to use specific medications for treating tobacco dependence.

The videos presented different situations in usual clinical practice where a healthcare professional interacts with a person who smokes. The first video shows how to assess smoking status and perform carbon monoxide measurements. In the second video, opportunistic brief advice is demonstrated. The third video shows how to deal with relapses. The fourth video covers how to conduct a motivational interview. Finally, the fifth video addresses the pharmacological approach (Pardavila-Belio et al., 2021).

The virtual simulation scenarios, which introduced a key innovative element, were intended to allow students to apply the previously acquired theoretical knowledge in a safe clinical context (Pardavila-Belio et al., 2021). Before performing the scenarios, and as the theoretical model points out, the students received a prebriefing about the scenarios.

The simulation scenarios used a decision tree for each case (supplementary Figure 1 provides an example for the first case). In total, three scenarios were designed in different clinical settings: Primary Healthcare (simulation cases 1 and 3), and hospital (simulation case 2). The aim of this was that each student would choose the most appropriate response according to the possibilities presented, following the Dieckman and Gaba model (Dieckman et al., 2007).

After completing it, a debriefing was done where students reflected on how they had carried out the exercise and whether they had achieved the expected learning objectives (explicit from the introduction to the case).

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## Which institutions were involved?

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### *Institut Català d'Oncologia*

The Institut Català d'Oncologia (Catalan Institute of Oncology, ICO) is a public non-profit Comprehensive Cancer Center assigned to the Catalan Health Service (CatSalut). ICO is an oncological referral centre for almost 50% of the adult population of Catalonia, with high international recognition.

ICO develops implementation research within its Department of Cancer Epidemiology and Prevention, with tobacco control intervention and research specifically run by the Tobacco Control Unit (TCU). The TCU has designed and disseminated several tobacco cessation training programs. In addition, the Unit maintains firm collaborations with national and international institutions, including the World Health Organization (WHO), which has designated the TCU-ICO as a WHO Collaborating Centre (CC) for Tobacco Control. The Unit's team is characterized by its youth and enthusiasm, and by its multidisciplinary character.

Since 1993, ICO'S Training Unit has demonstrated its expertise in the field of cancer training by incorporating innovative approaches to lifelong learning for healthcare professionals and creating e-learning activities. Through the *e-oncologia* platform it has provided more than 3,000 hours of virtual teaching in eight languages. To date, more than 70,000 individuals from all over the world have participated in the program.

### *University of Navarra*

The University of Navarra ([www.unav.edu/](http://www.unav.edu/)) is a Christian-inspired institution that carries out its teaching, research and healthcare activities on a non-profit basis. Privately, it began its activities in 1952 in Pamplona (Spain), promoted by Saint Josemaría Escrivá, founder of Opus Dei.

Considered the No. 1 in Spain in international focus (according to The world University ranking) and in reputation among employers (according to QS Ranking), it offers thirty-seven undergraduate studies and forty master's programs, distributed among 16 faculties/schools on 7 different campuses. It has 12,779 students (of which 27.4% are international). In the Faculty of Nursing ([www.unav.edu/web/facultad-de-enfermeria](http://www.unav.edu/web/facultad-de-enfermeria)), 550 students are currently studying in the 2022/2023 academic year. In addition, the Faculty of Nursing obtained the N.1 position in the QS ranking, being considered with Universidad de Barcelona the best in Spain.

### *Universidad de Barcelona*

The University of Barcelona (<https://www.ub.edu/web/portal/ca/>) is a public University located in Catalonia, Spain. It combines traditional values with innovation, quality and inclusion and has more than 500 years of history.

This University has sixteen faculties, ten affiliated centres and a doctoral school through which all its academic programmes are run. It also has a Science Park, a Science and Technology Centre service, seventeen research institutes, over five hundred research groups and nearly six thousand researchers. It runs the 55th position in the world in scientific production (National Taiwan University Ranking). In addition, the School of Nursing (<https://www.ub.edu/portal/web/medicina-ciencias-salut/ufr-infermeria>), in the 2022/2023 academic year, 1,800 students are currently studying. Moreover, The School of Nursing obtained the N.1 position in the QS ranking, being considered with Universidad de Navarra the best in Spain.

### *Universidad de Lleida*

The University of Lleida (<https://www.udl.cat/ca/>) is a public university located in Lleida, Spain. Currently, it has eight Faculties, twenty-seven departments, and 9,983 students. It has an offer of 46 bachelor's degrees and 31 master's degrees.

According to The world University rankings, the University of Lleida is positioned +601 (out of 856) in clinical and health, 301-400 (out of 537) in education, and 301-400 (out of 1098) in engineering (2021 data). The Faculty of Nursing (<https://www.fif.udl.cat/ca/>) had 878 students in the 2020/2021 academic year.

### *King's College London*

King's College London (<https://www.kcl.ac.uk/>) was founded in 1829 by King George IV and the Duke of Wellington, and is now home to over 33,000 students from over 150 countries. Ranked in the top 40 universities globally by both Times Higher (2022) and QS (2023), it counts a total of 14 Nobel laureates amongst its alumni. The Florence Nightingale Faculty of Nursing, Midwifery and Palliative Care (FNMPC) (<https://www.kcl.ac.uk/nmpc>) is one of the university's nine faculties, ranked 1st in the UK and 2nd in the world for Nursing (QS World University Rankings by Subject 2022). The Faculty is s direct descent from the training school set up by Florence Nightingale at St Thomas' Hospital in 1860, and the Cicely Saunders Institute was established in 2010 with the international charity she founded and is the world's first purpose-built institute for palliative care. The Faculty has over 2,800 students.

### *Erasmus Hogeschool Brussel*

Erasmus University College Brussels (EhB) (<https://www.erasmushogeschool.be/nl>) is a University College institution based in Brussels, specialising in health, teaching, applied and artistic research and the arts. Erasmus University College Brussels is a multidisciplinary college with a student body of over 5,000 students in six main areas of study: Medicine and Health, Business and Social Sciences, Arts & Humanities, Languages & Cultural Issues, Engineering, and Science & Technology.

Erasmus University College is a member of the Compostela Group of Universities and all schools within the university college are active members of international thematic networks. The Compostela Group of Universities (CGU) is an international non-profit association that promotes and executes collaboration projects between institutions of higher education. The EhB Nursing department hosts about 300 students per academic year.

### *Université Libre de Bruxelles (ULB)*

The Université Libre de Bruxelles (ULB) was founded in 1834, and since then has been closely involved in the ongoing debate on critical thinking and freedom. The University has retained its original ideals as a free institution that is firmly engaged in the defence of democratic and human values.

The ULB has 12 Faculties that cover all the disciplines, closely combining academic input and research. It offers almost 40 undergraduate programmes and 250 graduate programmes (among them 15 Masters fully taught in English). It also partners 20 Doctoral schools, with almost 1,600 PhDs in progress. According to the world University rankings, ULB is ranked 226 in Best Global Universities, and the Solvay School ranks 38 in the world. As multicultural university (with one third of students and researchers from abroad) the School of Public Health hosts about 1240 students of 39 nationalities.

## Nursing School of Coimbra (ESEnfC)

The Nursing School of Coimbra (ESEnfC) (<https://www.esenfc.pt/pt>), heir to the most ancient nursing training in Portugal (since 1881), is a nationally and internationally recognized public institution due to its quality and innovation in the health system and in society. The ESEnfC is committed to the humanist, scientific, technical, and cultural training of socially recognized professionals, the promotion of accredited research, the dissemination of knowledge and the provision of specific services.

The ESEnfC hosts the Health Sciences Research Unit: Nursing (UICISA: E), a research unit funded in 2004. It holds the 239th position world in Shanghai Ranking's Global Ranking of Academic Subjects 2022, Times Higher Education Impact Rankings 2022, also ESEnfC holds the position 401-600. The ESEnfC, offers bachelor's, master's, and doctoral degrees, and during the academic year 2022/2023 it has a total of 1,941 students.

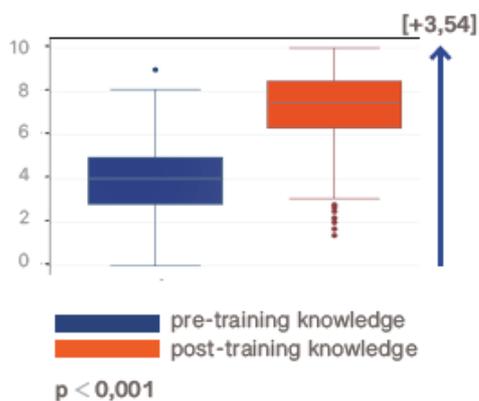
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### Project's results

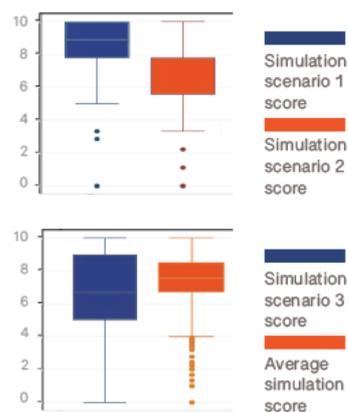
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The INSTRUCT course provides an innovative and comprehensive approach towards smoking cessation. INSTRUCT has been tested and implemented in Spain, United Kingdom, Belgium, and Portugal, with very promising results. This short section presents some key results obtained after the implementation of the INSTRUCT course in four different settings (over 1,187 students) before and after completing the course. The changes identified for the areas regarding students' knowledge, abilities & attitudes, acquisition of global competence, and students' overall satisfaction with the course, can be seen next.

#### Changes in the level of knowledge of the students before and after the course



#### Overall course's mean and three simulation scenarios (assessment of abilities and attitudes)



**Table 2: Acquisition of global competence (knowledge, attitudes and skills).**

<b>Course (n)</b>	<b>n (%)</b>
Total (851)	
Yes	732 (86.02)
No	119 (13.98)

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**What has been the acceptance of the INSTRUCT course?**

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As series of Focus Groups (FGs) were conducted in order to evaluate the implementation of the INSTRuCT course within the different settings (after and the first two editions of the course) both for students and lecturers involved in the process. The satisfaction of those engaged in teaching or guiding the INSTRuCT resource offered excellent results.

Overall, lecturers were impressed by the excellent quality of the materials provided and its user-friendly resources. Numerous remarks on the visuals used and the quality of its structure and design were made. The INSTRuCT resource was seen as innovative, flexible, incorporating the latest evidence, and comprehensive.

The course was launched in different healthcare programs and also at different study-years (for instance 2nd year of Nursing, 3rd year of Medicine, or in the Master of Public Health) which proved its flexibility. Lecturers used this resource in combination with either specific courses or as an elective one with guidance. Although so far, the course has been implemented as a complete resource, lecturers also highlighted the possibility of using specific modules or the simulation exercises independently to illustrate specific examples or to deepen in a particular concept while teaching on the topic of smoking cessation. This option is already possible in order to facilitate its use across the different countries and settings.

**Table 3: Overall Students` satisfaction with the course**

<b>Students (759)</b>	<b>mean (over 10)</b>
According to the pedagogical material provided, the learning objectives presented are clear and reachable	8.32
The course contents are adapted to my learning needs as a student pursuing a Health Sciences degree.	8.58
The didactic contents are accurate and reliable	8.64
The didactic contents are presented in a clear fashion	8.77
The course contents are updated according to the latest scientific evidence	8.68
The didactic methodology employed catch one's attention and motivates to keep going in the learning process of the contents	8.82
The virtual navigation of the course easy and allows one to go from one educational resource to the other	8.26
The methodology employed in the theoretical modules has helped me to acquire the necessary knowledge to be able to assist a tobacco user in the clinical practice	8.44
The videos have helped me to understand how I should perform a professional attention in several clinical situations when attending a tobacco user	8.49
The videos have helped me to understand how I should perform a professional attention in several clinical situations when attending a tobacco user	8.65
The virtual simulation exercises have helped to practice in a computer-generated situation the knowledge acquired in the theoretical modules	8.30
The virtual simulation exercises are attractive and well drafted	7.99
Indicate the difficulty of the course according to your personal experience	6.90
The time assigned to complete the course has been adequate to its correct completion	7.66
Before starting the evaluation, I had available the course evaluation system	7.55
In general, your overall satisfaction with the course is:	8.17
Would you recommend the course to other students?	8.40

**Table 4: Overall lecturers' satisfaction with the course**

<b>Lecturers (15)</b>	<b>mean (over 10)</b>
Support material for the lecturer is adequate	9.1
Previous training is adequate	9
The information received by the students prior to the course is adequate.	8.3
The course goals are clear and achievable with the course material.	9.3
The learning methodology used in the course fosters positive attitudes towards study and maintains the interest of the students.	9
The information received by the student prior to the course is adequate.	9.1
The course goals are clear and achievable with the course material.	9.3
The educational approach used in the course fosters positive attitudes towards study and maintains the interest of the students	9
The educational materials (modules, videos, virtual simulation) of the course promote the acquisition of competences by the students.	9.1
The time planned for the completion of the course is adequate.	8.2
The difficulty of including the course in the academic curriculum of the degree/s	6.3
Intention to implement the course in subsequent years	8.6
In general, your overall satisfaction with the course is:	8.3
Would you recommend the course to another lecturer?	8.9
I would recommend the course for other degrees in health sciences	9

**What are the barriers and facilitators of introducing innovative materials in the curricula?**

Introducing new innovative content in busy curricula seems often a challenge across the different EU programs. In order to examine which factors may facilitate or challenge the introduction of new resources in the various educative programs, fourteen key representatives (such as Deans, vice Deans or Program Directors, among others) were interviewed across the different participating institutions in this project.

Most study programs face severely overloaded core curriculums, and therefore, even the most innovative resources may face intense competition with more traditional teaching techniques or traditional courses. However, there are a series of facilitators that may enhance the process, such as having robust teams leading those processes, counting with experts in the field and motivated lecturers to support the process and a certain degree of flexibility to support the process.

**Key lessons** for introducing a resource such as INSTrUCT course are:

- Involving management representatives from an early point to understand the need for developing innovative programs, and to insist on key essential aspects that make your product unique, such as in our case the versality and the usability of the INSTrUCT program.
- The fact that different programs within an institution may benefit from using new innovative resources is essential. This type of resources may be expensive and therefore its efficiency must be emphasised.
- Engage with motivated lecturers and or managers that help underling the need/s for the development of innovative products.
- Ensuring that the proposed product/resource is flexible is key, both in terms of use but also in terms of compatibility (with for instance the technical aspects inherent to different settings or institutions, double checking the programs' usability, etc).
- Ensuring that there is no repetition of topics and that the faculties or specific programs' priorities adhere to the suggested contents.
- Underline the quality of your product (such as INSTrUCT) and show the possibilities of its use (e.g.: hybrid use, multi-professional point of view, evidence based, innovative (virtual simulation), robust and flexible).
- Be attentive to collaboration opportunities with diverse fields and contexts.

All in all, our work encountered more facilitators than barriers, but a committed team which puts great focus on communication is essential to accomplish ambitious goals. This is essential when working with international and multidisciplinary teams. Working with motivated researchers & lecturers and that facilitate the whole design and implementation process are a must, but of course the ultimate product (in our case, the INSTrUCT OER) must be of great quality and excellent usability.

A summary of the some of the encountered Barriers and Facilitators can be seen next.

<b><u>Barriers</u></b>	<b><u>Facilitators</u></b>
<ul style="list-style-type: none"> <li>• Overcrowded curricula</li> <li>• Rigid timetables</li> <li>• Translations and adaptations to specific contexts.</li> <li>• Use of different technology and supporting systems (e.g.: incompatible software, specific licensing use...etc.).</li> <li>• Bureaucracy</li> </ul>	<ul style="list-style-type: none"> <li>• Motivated lecturers &amp; managers.</li> <li>• New innovative resources.</li> <li>• Robust design and materials based on the latest evidence.</li> <li>• Attractive and transversal topics.</li> <li>• Flexibility and adaptability of resources to different contexts and courses.</li> <li>• Good and regular communication among the team (internationally and at local level).</li> <li>• Enhanced collaboration with other teams (different faculties, other units...)</li> <li>• Leading team availability to guide the process.</li> <li>• Providing steady support to students and other lecturers implementing new resources.</li> <li>• Core team availability</li> </ul>

## What is the experience of students and lecturers with the course?



## What are the policy recommendations

### RECOMMENDATIONS FOR STUDENTS

Make sure that you complete the entire programme (theoretical modules, activities and videos)

- 1 To acquire the essential knowledge regarding smoking cessation.
- 2 The content provided is evidence based, clear, concise, and manageable.

Immerse yourself in the clinical virtual simulation scenarios

- 1 To acquire the necessary skills leading to smoking cessation interventions in the clinical setting.
- 2 To encourage your critical thinking.
- 3 To ensure that the best scientific evidence can be applied in the clinical setting.

### Observed changes regarding learning

- 1 To acquire global competence in smoking cessation.
- 2 To promote the implementation of evidence-based smoking cessation interventions in the clinical practice.

### RECOMMENDATIONS FOR LECTURERS

Facilitate the implementation of the INSTRUcT course in core or elective subjects

- 1 Tackling the tobacco pandemic is one of the priority working areas of the Public Health community.
- 2 Addiction is described as a mental disorder by the DSM-5-TR.
- 3 The INSTRUcT approach is unique and flexible and can be adapted to most courses and contents.
- 4 The INSTRUcT course entails a variety of methodologies that improve both theoretical and practical skills.
- 5 Although the INSTRUcT course is designed to be carried out virtually, all contents can be used independently. They can be used in face-to-face or blended learning modalities.
- 6 Lecturers who recently implemented the INSTRUcT course, expressed a high level of satisfaction with its approach. All lecturers recommended using it to fellow colleagues.

Use the best evidence contents to improve students' knowledge

- 1 The INSTRUcT course contents are based on the best evidence and practice.
- 2 The INSTRUcT course has been designed by experts in the field of education and tobacco cessation.
- 3 The INSTRUcT course contents are flexible to be adapted to the specific learning outcomes of the course(s) (where it is to be implemented).
- 4 The INSTRUcT course evaluation show that students acquire the relevant knowledge on smoking cessation interventions.

### Learning results' context

- 1 To prepare healthcare students to tackle one of the main preventable health problems.

Innovate by using virtual simulation to improve students' clinical skills

- 1 The clinical cases used in the INSTRUcT course, have been prepared by experts in smoking cessation, education, and clinical simulation.
- 2 The pre-briefing and debriefing procedures can be implemented both virtually and in person.
- 3 The cases used in this course reflect the reality of the diverse clinical contexts.
- 4 The INSTRUcT course encourages students' critical thinking.
- 5 The evaluation of the INSTRUcT course shows that students acquire the necessary skills to implement smoking cessation interventions in practice.

Complete the INSTRUcT course before starting clinical placements

- 1 Pre-practice preparation helps to consolidate smoking cessation competency.

Assess prior overall students' competence (knowledge, skills and attitudes) via validated questionnaires such as the KABO student

- 1 The KABO student questionnaire is a validated instrument that measures knowledge, skills and attitudes in delivering smoking cessation (in healthcare students).
- 2 To tackle the existing gap of students and future health professionals in smoking cessation, with the ultimate aim of improving the health of smokers and future ex-smokers.

### RECOMMENDATIONS FOR MANAGERIAL ROLES

To promote the implementation of the INSTRUcT course in the curricula of European degrees in health science

- 1 To lead education in tackling one of the main health problems of preventable morbidity and mortality in our societies.
- 2 Healthy Universities aim to educate university communities with a focus on health promotion at both undergraduate and postgraduate levels.
- 3 The INSTRUcT course responds to one of the United Nations sustainable development goals focusing on "health and well-being".

- 4 The use of OERs such as the INSTRUcT course, on a free basis, eliminate restrictions of use. These resources facilitate its use across boundaries.

### Expected results for society

- 1 Contributing to the improvement of the health of the European Union's communities.
- 2 Strengthening the "Health Promoting Universities" with a focus on health promotion education.
- 3 Contribute to the development of the European Commission Goals including the Cancer Prevention Strategy.
- 4 Contribute to the dissemination of excellent quality learning materials supporting the Open Science approach.

Funding: The INSTRUcT project (Reference: 2019-1-ES01-KA203-064496) is funded within the framework of Erasmus+ programme (EU) with support from the European Commission and the Organismo Autónomo Servicio Español para la Internacionalización de la Educación (SEPIE). This work has been supported by project number PID2020-113614RB-C22 funded by MCIN/AEI/10.13039/501100011033.

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