Spoločenský dosah 1

Krok 1: Impact case study form

Please read the information regarding the case study form on societal impact.

- The Impact case study form consists of two sections. In Section A, provide basic information about the applicant, the unit of assessment, the title of the case study, the period when the research on which the case study is based was conducted, and information about the submitting institution's staff who are (or have been) involved in the research. The information regarding the underpinning research does not need to be linked to current staff, nor does it need to be linked to the evaluation period (2020-2024) or to the outputs submitted in the previous section.
- Section B has 5 main parts:
- Brief summary of the impact (max. 100 words): briefly state the specific societal impact described in the case study;
- The research on which the impact is based (max. 500 words): provide the key research findings or insights that underpin the societal impact and details of what research has been conducted, when and by whom;
- References to the research (max. 6 references): provide references to the key outputs from the research described in the previous section;
- Details of the societal impact (max 750 words): using supporting evidence, explain how the research has clearly supported or substantially contributed to the declared societal impact, and also the nature and extent of the societal impact, including a description of the societal impact on specific institutions or target groups, including a description of the evidence to support the societal impact;
- Up-to-date contacts to sources supporting the societal impact (max. ten references): provide contacts of those external sources (i.e. sources outside the submitting institution) that have supported the specific claims made in the case study.
- The last part of the form is 'other contextual data', which applicants may fill in if relevant in the context of the application (this information is supplementary and optional; it is not included in the limit of five pages).

Krok 2: Impact case study form - Section A

The fields in this section are compulsory.

Oblasť hodnotenia:
Zdravotnícke vedy

Inštitúcia:
Trnavská univerzita v Trnave

Title of case study*

Comprehensive use of scientific evidence for the prevention of the onset and development of diseases

Type of the impact*

Health

Time period when the underpinning research was conducted*

2019 - 2024

Period when the declared impact occurred*

2019 - 2024

Details about the personnel conducting the underpinning research from the submitting unit:

Zamestnanec č. 1

Name/Names*

Martin Rusnák

Roles (e.g. work position)*

Responsible for WP3 Global NCD Instruments Work Package WP7 of the CENTER-TBI project

Period of employment at the submitting institution*

2007 – till now

Zamestnanec č. 2

Name/Names*

Dominika Plančíková

Roles (e.g. work position)*

Junior, Deputy Head of WP3, Researcher and Lecturer in WP3 (SUNI-SEA and PRESCRIP-TEC)

Period of employment at the submitting institution*

2018 – till now

Zamestnanec č. 3

Name/Names*

Viera Rusnáková

Roles (e.g. work position)*

Senior, Researcher and Lecturer in WP3 (SUNI-SEA and PRESCRIP-TEC)

Period of employment at the submitting institution*

2010 – till now

Zamestnanec č. 4

Name/Names*

Jarmila Pekarčíková

Roles (e.g. work position)*

Senior, Researcher and Lecturer in WP3 (SUNI-SEA and PRESCRIP-TEC)

Period of employment at the submitting institution*

2006 - till now

Zamestnanec č. 5

Name/Names*

Juliana Melichová

Roles (e.g. work position)*

Junior, Researcher and Lecturer in WP3 (SUNI-SEA), WP1 and WP3 (PRESCRIP-TEC)

Period of employment at the submitting institution*

2020 - till now

Zamestnanec č. 6

Name/Names*

Patrik Sivčo

Roles (e.g. work position)*

Junior, Researcher and Lecturer in WP3 (SUNI-SEA and PRESCRIP-TEC)

Period of employment at the submitting institution*

2021 - till now

Zamestnanec č. 7

Name/Names*

Marek Majdan

Roles (e.g. work position)*

Coordinator of CENTER-TBI in Slovakia and head of WP7 (Coordinator of the PRESCRIP-TEC project in S

Period of employment at the submitting institution*

2005 - till now

Zamestnanec č. 8

Name/Names*

Kristína Grendová

Roles (e.g. work position)*

Senior, Researcher and Lecturer in WP3 (PRESCRIP-TEC and SUNI SEA)

Period of employment at the submitting institution*

2011 - till now

Zamestnanec č. 9

Name/Names*

Jaroslava Sokolová

Roles (e.g. work position)*

Senior, Researcher in WP1 (PRESCRIP-TEC)

Period of employment at the submitting institution*

2012 - till now

Zamestnanec č. 10

Name/Names*

Karolína Tomčíková

Roles (e.g. work position)*

Junior, Researcher in WP1 (PRESCRIP-TEC)

Period of employment at the submitting institution*

2022 - till now

Details about the personnel from the submitting institution who have contributed to the impact:

Zamestnanec č. 1

Name/Names*

Lucia Horská

Roles (e.g. work position)*

Department for International Activities, Projects and mobilities

Period of employment at the submitting institution*

2012 - till now

Zamestnanec č. 2

Name/Names*

Roles (e.g. work position)*

Period of employment at the submitting institution*

Zamestnanec č. 3

Name/Names*

Roles (e.g. work position)*

Period of employment at the submitting institution*

Krok 3: Brief summary of the impact

Please fill in a brief summary of societal impact.

Brief summary of the impact (max. 100 words)

This section briefly outlines the specific societal impact described in the case study.

Research has highlighted the societal benefits of an integrated public health approach that combines prevention, screening, primary care, disease management, and community engagement. Evidence from projects conducted in the target countries demonstrated the following key outcomes:

1. The effectiveness of interventions in the prevention and management of brain injury, hypertension, diabetes, cervical cancer, and COVID-19.

2. The cost-effectiveness of these interventions.

3. The utility of evidence-based methodologies in scaling up interventions for both communicable and non-communicable diseases.

These findings underscore the critical importance of integrated strategies in enhancing public health outcomes.

Krok 4: Research on which the impact is based

Please provide information about the research from which the societal impact is derived.

2. Research on which the impact is based (max. 500 words)

This part includes the key research findings or insights that underpin the societal impact and details what research has been undertaken, when and by whom. These research details do not need to be linked to current staff, nor do they need to be linked to the assessment period (2020-2024) or to the outputs presented in the previous section. This research may be a body of work developed over a number of years or may be the output of a specific project. Provide references to the specific research outputs that constitute the research described in this section in the next part (part B3).

Provide details of the following data in this part:

- The nature of the research knowledge or findings that relate to the societal impact declared in the case study.

- An outline of the research results (this may refer to one or more research outputs, projects or programmes).

- Any relevant key information about this research.

The implementation of evidence-based public health policies was grounded in a structured process that included generating evidence, fostering stakeholder understanding, translating findings into practice, and conducting rigorous evaluations. Raising awareness among healthcare professionals and the wider community, alongside targeted education efforts, significantly enhanced the effectiveness of interventions. Our research demonstrated that it is feasible to implement impactful public health strategies that address key risk factors, improve healthcare delivery, and promote healthier lifestyles—particularly among vulnerable populations.

A central pillar of the expanded interventions targeting hypertension, diabetes, brain injuries, and HPV vaccination was **public education**. By increasing awareness of disease risks, causes, and consequences, these efforts facilitated early detection and prevention. The project also validated the pivotal role of systematic reviews in evidence-informed policymaking. Repeated use of such reviews enabled effective resource allocation and the development of sustainable, population-level health strategies. These reviews were particularly instrumental in guiding responses to non-communicable diseases and the long-term consequences of COVID-19, serving as reliable tools to support the design, implementation, and evaluation of public health interventions.

The application of international frameworks such as AGREE II and ADAPTE further ensured the quality and relevance of synthesized evidence. This facilitated a comprehensive understanding of the effectiveness of preventive measures, the specific needs of **disadvantaged communities**, and the successful implementation of targeted interventions. The strategies promoted healthy behaviours, improved early risk detection, strengthened primary care systems, increased coverage for HPV screening and vaccination, and supported mitigation efforts related to COVID-19 and brain injuries.

Quality improvement in healthcare services was achieved through the dual approach of evidence-based implementation and tailored training. Training programs for primary care providers, public health professionals, and community health volunteers were adapted to local cultural and operational contexts. These programs enhanced professional competencies, resulting in demonstrable improvements in service quality. Additionally, simplified guidelines—derived from rigorous evidence—facilitated procedural adherence and served as effective educational tools in patient consultations. Final evaluations indicated that healthcare providers who received training were more likely to offer health education, contributing to improved treatment adherence.

Community-based campaigns played a critical role in disseminating information on healthy lifestyle practices, including vaccination, physical activity, and environmental safety. These campaigns were strategically implemented in socioeconomically disadvantaged areas: among Roma populations in Slovakia (focused on cervical cancer prevention), in Southeast Asia (Vietnam, Indonesia, and Myanmar, targeting hypertension and diabetes), and in Balkan countries (addressing the secondary prevention of COVID-19). Educational initiatives emphasized regular screenings and tackled multiple determinants of health, fostering sustainable behavior change and creating supportive environments for health promotion.

The quality dimension was integral to the strategy for integrating scientific evidence into public health practice. Beyond field-level activities, the research team provided technical support for adapting clinical guidelines and building capacity among local primary healthcare staff and public health actors. As evidenced by project outcomes, these efforts laid a strong foundation for the continued expansion and sustainability of health initiatives.

Krok 5: References to the research

Please provide up to six references to research from which the societal impact is derived.

3. References to the research (max. 6 references)

In this part, provide references to key outputs from the research described in the previous part. All forms of outputs will be considered equally (no one type of output will be given priority over another). These references will be assessed solely with regard to societal impact.

For each output cited, provide the following details:

- author(s)
- title
- year of publication
- type of output and other relevant data needed to identify the output (e.g. DOI, journal title and issue number)

All outputs listed in this part must be accessible to the evaluation sub-panels. If they are not available publicly, the submitting institution must be able to provide them on request of the appropriate department of the Ministry.

If the optional information on key research grants that supported the research or grant completion reports has been included, provide the following information:

- to whom the grant was awarded
- the title of the grant
- sponsor
- grant period (with dates)
- financial value of the grant.

Word limit: max. 300 words

1. **Melichová J, Sivco P, Rusnak M, Phuong Truc P, Majdan M**.: *International evidence-based guidelines on hypertension and type 2 diabetes mellitus: A systematic review*. J Public Health Res. 2023; 12(1):22799036221146910.
https://journals.sagepub.com/doi/pdf/10.1177/22799036221146913

2. Sultanov M, Zeeuw J de, Koot J, der Schans J van, Beltman JJ, Fouw M de, **Majdan, M.**, **Rusnak, M**., et al. *Investigating feasibility of 2021 WHO protocol for cervical cancer screening in underscreened populations: PREvention and SCReening Innovation Project Toward Elimination of Cervical Cancer (PRESCRIP-TEC).* BMC Public Health. 2022; 22(1):1-10. (CC) doi: 10.1186/s12889-022-13488-z

3. *Zelinková, V., Brazinova, A.,* **Taylor, M. S., Rusnák, M., Plančíková, D., Melichová, J., Majdan, M**. (2019). *Location of traumatic brain injury-related deaths: epidemiological analysis of 11 European*

countries. Brain Injury, 33(7), 830–835. https://doi.org/https://doi.org/10.1080/02699052.2019.1605622

4. Sultanov M, Zeeuw J, Koot J, der Schans JV, Beltman JJ, Fouw M, **Maidan M, Rusnak M**, Nazrul N, Rahman A, Nakisige C, Rao AP, Prasad K, Guruvare S, Biesma R, Versluis M, de Bock GH, Stekelenburg J. *Investigating feasibility of 2021 WHO protocol for cervical cancer screening in underscreened populations: PREvention and SCReening Innovation Project Toward Elimination of Cervical Cancer PRESCRIP-TEC)*tag. BMC Public Health. 2022 Jul 15; 22(1):1356. doi: 10.1186/s12889-022-13488-z.

5. **Majdan M**, Plancikova D, Maas A, Polinder S, Feigin V, Theadom A, **Rusnak M**, Brazinova A, Haagsma J. *Years of life lost due to traumatic brain injury in Europe: A cross-sectional analysis of 16 countries*. PLoS med. 2017 July 11; 14(7):e1002331. doi: 10.1371/journal.pmed.1002331.

6. Brazinova A, Rehorčíková V, Taylor MS, Bučková V, **Majdan M**, Psota M, Peeters W, Feigin V, Theadom A, Holkovic L, Synnot A. *Epidemiology of Traumatic Brain Injury in Europe: A Living Systematic Review*. J Neurotrauma. 2021 May 15; 38(10):1411-1440. doi: 10.1089/neu.2015.4126. Epub 2018 Dec 19.

Krok 6: Details of the impact

Please provide details about the societal impact according to the described criteria.

4. Details of the impact (max. 750 words)

In this part, provide a narrative with supporting evidence that explains:

- how the research has supported or made a distinct and substantial contribution to societal impact;

- the nature and extent of the societal impact, including a description of the specific institutions and target groups.

Provide the following details:

- A clear explanation of the process or manner in which the research has led to, supported or contributed to societal impact (e.g. how it has been disseminated, how it has influenced users or beneficiaries, or how it has come to be used, adopted or applied).

- If the submitting institution's research was part of a broader research project that contributed to impact (e.g. in the case of research collaborations with other institutions), identify in the case study the specific contributions of the submitting institution's research and list other key contributions of the research.

- Details of the beneficiaries - who or what community, group or organisation has benefited from, been influenced by or affected by the societal impact of the research.

- Details of the nature of the societal impact - how they have benefited, been affected or in what ways their activities have been affected.

- Description of evidence or indicators of the scale of the social impact described, as appropriate to the example.

- The dates and periods when these societal impacts occurred.

The societal impact of these projects has manifested across **multiple dimensions**, significantly influencing population health, public health policy, and socio-economic outcomes in the target countries. A key achievement has been the expansion and contextual adaptation of disease prevention and management practices based on scientific evidence. These initiatives successfully translated international research into practical interventions tailored to local environments, engaging community workers, physicians, nurses, public health professionals, and researchers throughout the process.

In Southeast Asia, a primary focus was the enhancement of diabetes and hypertension prevention and management strategies. These efforts increased **health awareness** among underserved populations, encouraging routine monitoring and early disease detection. Although the short duration of the study limited direct measurement of mortality outcomes, the interventions demonstrated promise in altering health-seeking behaviour. The use of innovative technologies, including mobile applications, facilitated broader access to health information and empowered individuals to take greater responsibility for their health.

The SUNI-SEA project played a pivotal role in these developments. Its outcomes were presented at a **hybrid international conference** on June 15, 2023—*Linking People, Communities and Primary Healthcare: An Essential Approach for Tackling NCDs and Achieving UHC*. The conference disseminated findings from implementation research conducted in Indonesia, Myanmar, and Vietnam, effectively linking project data with global health policy discourse. The event materials remain publicly accessible on the SUNI-SEA website (http://www.suni-sea.org).

Building on a comparison of national and international guidelines, the project developed **systematic reviews** for hypertension and type 2 diabetes and produced educational resources based on its guidance document, *Adaptation of Community-Based Health Interventions to Culture and Context*. Capacity-building efforts in participating countries included a series of community meetings and a hybrid conference, engaging stakeholders across multiple sectors. Slovak researchers contributed through expertise in research methodology, community-based patient management, and disease prevention. Project outcomes have been disseminated in expert forums in Slovakia, where plans are underway to replicate the intervention model in national settings.

The CENTER-TBI project made a significant contribution to the **prevention and management of brain injuries**—among the leading causes of disability and death in Europe. For the first time, a comprehensive epidemiological mapping of traumatic brain injuries (TBI) was achieved, supported by two extensive patient databases from 37 European centers. One database focused on risk populations and activities, while the clinical database tracked treatment and outcomes for nearly 6,000 TBI patients. This robust dataset enabled **cross-national comparisons of therapeutic approaches** and informed the development of **evidence-based recommendations** to enhance TBI care across Europe. The project's findings were presented at the European Parliament to raise awareness among policymakers and ensure long-term policy impact.

To further engage the public, CENTER-TBI also developed an interactive online platform that explains TBI research in accessible terms. This tool fosters greater public understanding and involvement in research, clinical care, and health policy development.

The PRESCRIP-TEC project addressed disparities in cervical cancer screening by tailoring programs for vulnerable groups—including Roma communities, individuals living in poverty, and HIV-positive patients. A major innovation was the introduction of **self-sampling for high-risk HPV testing**, used by up to 90% of participating women. This method substantially increased participation rates and demonstrated high acceptability. In parallel, the project developed an AI-based system for automated diagnosis of precancerous lesions, enhancing diagnostic accuracy and scalability for low- and middle-income settings.

A cost-effectiveness analysis confirmed the feasibility of hrHPV testing, supporting the WHO's global strategy to eliminate cervical cancer. The project also highlighted the influence of socio-economic and familial factors on screening uptake. The integrated approach—combining social media outreach, electronic health records, AI-based decision support systems, and on-site hrHPV testing—proved more effective and cost-efficient than conventional screening methods such as VIA or Pap smears.

In summary, these projects have had a far-reaching social impact by addressing **key public health challenges in diverse contexts**. Through community engagement, technology integration, capacity building, and the application of evidence-based practices, they have laid a foundation for more equitable, efficient, and sustainable healthcare systems. Their results have informed both national and international policy discussions and are poised to contribute to future public health initiatives globally.

Krok 7: Zdroje na potvrdenie spoločenského dosahu

Prosím vyplňte kontakty na zdroje podľa nižšie uvedených kritérií.

5. Zdroje na potvrdenie spoločenského dosahu (maximálne desať odkazov)

V tejto časti sa uvádzajú aktuálne kontakty na externé zdroje okrem žiadateľa, ktoré poskytli potvrdenie konkrétnych tvrdení, uvedených v prípadovej štúdii. Zdroje uvedené v tejto časti sa nenahrádzajú poskytnutie dôkazov o vplyve v časti B4; V tejto časti sa uvádzajú aktuálne kontaktné údaje o zdrojoch, ktoré by mohli potvrdiť kľúčové tvrdenia o dosahu výskumu pracoviska. Podľa potreby môžu zahŕňať nasledujúce externé zdroje potvrdenia (s uvedením, ktoré tvrdenie zdroj potvrdzuje):

- Správy, recenzie, webové odkazy alebo iné zdokumentované zdroje informácií vo verejnej sfére.
- Dôverné správy alebo dokumenty (ak sú uvedené, musia byť predložené príslušnému útvaru do 31. mája 2025).
- Jednotliví používatelia/príjemcovia, ktorých príslušný útvar môže kontaktovať, aby potvrdili tvrdenia*.
- Vyhlásenia, ktoré už používatelia/prijímatelia poskytli žiadateľovi, ktoré potvrdzujú konkrétne tvrdenia uvedené v prípadovej štúdii (ak sú uvedené, musia byť predložené príslušnému útvaru do 31. mája 2025).

Zdroj č. 1

SUNI-SEA series of webinars on scientific evidence in health promotion and disease prevention

Project website with links to presentations and webinars. Available at https://www.suni-sea.org/en/resources/capacity-building-materials/

Zdroj č. 2

Guideline for adaptation of community-based health interventions to culture and context

Guidelines designed to guide the process of adapting a community health intervention, training or programme to the local context. Available at https://www.suni-sea.org/download/19995/?tmstv=1688715832

Zdroj č. 3

SUNI SEA Project Activities at Community Level

In Vietnam, project facilitated establishment of *Intergenerational Self-Help Clubs (ISHCs)*—community-based organizations designed to address diverse needs of members. *ISHCs* offer a range of activities with (health promotion, essential services aimed at enhancing community well-being, social cohesion).

In Indonesia, **a stakeholder forum** was convened to disseminate project findings, discuss strategies for strengthening national programmes (prevention, control of non-communicable diseases (NCDs)). Key actors of forum: health officials, midwives, nurses.

These activities culminated in hybrid international conference titled *Connecting People, Communities, and Primary Care: An Essential Approach to Combat NCDs and Achieve Universal Health Coverage (UHC).*

Zdroj č. 4

Soft skills manual for training of trainers and healthcare staff

A guide to help the core group of trainers involved in the design and organization of training programs for the development of soft skills in the already defined areas of community mobilization, communication on behaviour change and health promotion. Available at https://www.suni-sea.org/download/19987/?tmstv=1688458833

Zdroj č. 5

Traumatic brain injury: progress and challenges in prevention, clinical care, and research

A summary of the results of the CENTER-TBI project was published in 2022 as a commission (requested by the editors) issue of the most prestigious journal in the field of neurological sciences, *The Lancet Neurology.*

Zdroj č. 6

Roundtable at the European Parliament on November 7, 2017, to present the Lancet Neurology Commission on Traumatic Brain Injury (TBI)

The round table of representatives of the project consortium, which took place in the European Parliament with the participation of MEPs, aimed to communicate the results of the project, ensure their lasting impact and draw the attention of legislators at the highest European level to the problem of brain injuries and its extent

Zdroj č. 7

Public Information Platform of the CENTER-TBI project

An interactive platform on the CENTER-TBI website explained traumatic brain injury (TBI) research and its impact in a simple and understandable way. Its aim was to involve the public in research, clinical care and health policymaking.

Zdroj č. 8

Interactive community information via mobile devices and social networks

The PRESCRIP-TEC project used mobile technologies and social networks to spread information about cervical cancer. The aim was to raise awareness and promote women's participation in screening programmes, especially in areas with limited resources or hard-to-reach communities.

Zdroj č. 9

Community strategies with self-examination for high-risk HPV infection

PRESCRIP-TEC implemented a community-oriented approach that included the possibility of self-screening for high-risk HPV types. This method allowed women to screen for cervical cancer in the comfort of their own homes, improving the availability and acceptance of testing.

Zdroj č. 10

The use of artificial intelligence in gynaecological examinations

The project integrated artificial intelligence (AI) into gynaecological examinations, improving diagnostic accuracy and reducing the need for a physical examination by a specialist. This innovation was particularly important in areas with limited access to medical care.

Krok 8: Other contextual data

Fields in this part are additional and optional. This information is provided in a separate form and is not included in the five-page limit.

Name(s) of funder(s):

1. Academisch Ziekenhuis Groningen, The Netherlands, 2019 – 2022

2. Antwerp University Hospital, Belgium, 2013-2020

3. The University Medical Center Groningen (UMCG) in the Netherlands, 2021 - 2024

Global Research Identifier of funder(s) (https://www.grid.ac/):

1. *Scaling-up NCD Interventions in South East Asia*' — '*SUNI-SEA*, H2020-SC1-BHC-2018-2020/H2020-SC1-2018-Single-Stage-RTD

2. *Collaborative European NeuroTrauma Effectiveness Research in TBI (CENTER-TBI);* FP7-HEALTH-2013-INNOVATION-1

3. *The Prevention and Screening Innovation Project Toward Elimination of Cervical Cancer (PRESCRIP-TEC);* H2020-SC1-BHC-2018-2020 (Better Health and care, economic growth and sustainable health systems

Name(s) of funding programme(s):

1. EU, Horizon 2020

2. 7th Framework Programme, EU

3. Horizon 2020 EU

Grant number(s):

1. grant agreement No 825026

2. Grant agreement ID: 602150

Amount of grant (in EUR):

1. 3,992,625 EUR

2. € 39 006 741,89

3. €3,265,974.50

ORCID for each named researcher, where available:

Name(s) of formal partner(s):

Countries where the impact occurred: