

COST Action Final Assessment Review

BM1204: An integrated European platform for pancreas cancer research: from basic science to clinical and public health interventions for a rare disease (14/12/2012 to 13/04/2017)

This report is submitted by the Action Rapporteur in fulfilment of the requirements of the rules for COST Action Management, Monitoring and Final Assessment and is confidential to the COST Association and the Management Committee of the Action.

Summaries

Main aim/ objective

The main objective of the Action is to capitalise on emerging scientific and technological developments in the field of Pancreatic Ductal Adenocarcinoma (PDAC) to: (i) Identify new modifiable risk factors, and other environmental, genetic and epigenetic risk factors; (ii) Dissect the molecular complexity through omics technology and identify clinically relevant disease subphenotypes; (iii) Identify reliable predictive biomarkers of early-stage as well as novel molecular targets for tailored therapies; (v) Identify reliable genetic, epigenetic and tumour-related factors associated with the prognosis; and (vi) Assess the potential implementation of the findings into public health and clinical settings.

The Action addressed this as described below.

EUPancreas has been very successful in capitalizing on the member's experiences and prior work and available resources on pancreatic cancer (PC), as well as on new technologies, to build standardized tools of common interest in the PC scientific community (pancreatic lesion definitions, epidemiological and clinical questionnaires, tumour tissue SOP). This was conducted by WG1 to increase the appropriateness and homogeneity of data and samples collected in new PC studies and to enhance the establishment of strong consortia and projects in Europe by pooling these resources.

EUPancreas has also succeeded in implementing two registries (PancreOS, a clinical and survival data registry led by WG4&WG1 in collaboration with the PCE platform, and a PC-omics data conducted by WG2 and funded by Pancreatic Cancer UK). In addition, WG1 explored the possibility to set up a network of pancreatic cancer biobanks in Europe and started pulling the strings in this regard.

Innovation on statistical and bioinformatics tools towards (omics) data integration has been one of the priorities of EUPancreas and was achieved through expert meetings, workshops, training school, and STSMs devoted to this topic and organized by WG2 members resulting in several publications and PhD thesis, with a high-yield in training ECIs.

Establishing large and sound common resources is crucial for the PC scientific community to further build upon standardized studies. WG3 capitalized on this principle and the expertise of EUPancreas members to set up high-risk pancreatic cancer populations and to identify patterns of early symptoms/signs/co-morbidities. A very large and well characterized new-onset diabetes mellitus population in Europe was planned and conversations with colleagues leading the CPDPC in USA with two recently launched cohorts applying similar methodology are underway under the auspices of NIH and EC. To identify early signs/symptoms and medical conditions of pancreatic cancer, data from a large primary and hospital care data resources with 10 million anonymised patient records from UK are being interrogated. All of them are robust PC resources that will certainly help to enhance pancreatic cancer research by establishing enriching collaborations with strong teams and organizations within and beyond Europe.

EUPancreas has also been able to maximize the impact of PC research on policy makers, regulatory bodies, national decision makers and the private sector through several actions conducted by WG4: EHFG2017 - PC/EUPancreas workshop and White Paper on Pancreatic Cancer, among others. In this regard, EUPancreas has joint efforts with PCE and organized an important brainstorming meeting with all involved stakeholders in PC research to reach national health policy makers, private companies and philanthropic bodies to make them aware of the gaps in PC research in Europe and to increase funding in this field.

All these achievements have been obtained through a high interaction among EUPancreas members, a fact that is evidenced by the number of STSMs conducted and the activities organized in collaboration with many other European organizations, as well as the many scientific and lay publications and reports and resulting in a strong platform that will be continued under the auspices of PCE (www.pancreaticcancereurope.eu/).

The Rapporteur summarised the Action's major outcomes, impacts and successes as follows.

COST Action BM1204 "An integrated European platform for pancreas cancer research; from basic science to clinical and public health interventions for a rare disease", or in another words EUPancreas, is a successful BMBS COST Action. Its success is reflected by number of factors. In only a short time it developed into a large Action with close to one hundred participants from 22 European countries, including several of the relatively new countries of the EU. The Action has used the networking tools of COST very efficiently, reflected in etc; (1) seven meetings of its managing group (MC) and 24 meeting of its four working groups (2) four training schools and/or workshops and (3) 27 Short-Term Scientific Missions (STSM). The Action were also one of the prime mover and/or important players in a number of important and successful non-Action meetings, the main goal being dissemination of the Action's achievements to the scientific community and other stakeholders, as well as influencing policy making of all relevant stakeholders. The Action's outcomes are many and some very successful and with potential high impacts. To name a few tangible and successful outcomes; (1) 21 scientific publications, one review paper, three original papers and three book chapters, as well as nine oral/poster presentations delivered at scientific meetings, plus a number of press releases and publications addressed to health policy makers, including the Pancreatic Cancer White Paper that were launched jointly with the European Alliance for Personalized Medicine (2) The PancreOS registry initiative that collects pancreatic cancer clinical and survival data using standardized methods provided by the Action with defined variables that allow to homogenize clinical data collection on pancreatic cancer (3) Standardization of epidemiological variables, with the review of all international case-control study questionnaires resulting in a CORE questionnaire and five modular questionnaires on smoking, alcoholic beverages, medical history, work exposure, anthropometric and physical activity (4) Standardization of the pathological definition of pancreatic lesions (5) Standardization of pancreatic cancer omics data through a homogeneous data registry being developed and constructed by a group in Bart's Cancer Centre in London. All of these outcomes and more can be found on the EUPancreas website (<http://eupancreas.com>). The website is in itself a successful outcome, with more than 25 thousand visits in four years and includes helpful and informative information and links for the Action members, the scientific community and other stakeholders as well as the lay population.

Achievement of MoU objectives, deliverables and additional outputs/ achievements

MoU objectives

The Action reported the achievement of the following objectives and their dependence on the Action networking.

MoU objective	Level of achievement reported by Action	Dependence reported by Action	Dependence assessed by Rapporteur
Capacity building in order to build a strong network of European Centres to develop unified biobanks that store individual epidemiological and clinical information and therefore represent fundamental resources for future PDAC research in Europe	76 - 100%	High	High
Evaluate the applicability of selected omics technologies to identify chemical, epigenetic, genetic, and molecular markers to be utilized in the public health and clinical setting. This will be achieved by disseminating the expertise within the respective centres and designing appropriate feasibility and reproducibility studies	76 - 100%	High	High
Optimize methodologies (epidemiological, statistical, omics-technology, and bioinformatic) to integrate and interpret data. This is a very important and innovative research area since appropriate data integration greatly facilitates the discovery of novel biomarkers and therapeutic targets	76 - 100%	High	High
Unite and train young researchers from different disciplinary backgrounds in distinct European countries. While they are a main target of the Action, experienced and established researchers will also be drawn upon to deepen and broaden the expertise of the network	76 - 100%	High	High
Disseminate the information gathered to the scientific community and increase public awareness about PDAC research needs and impacts. In quantitative terms, it is expected that at least 30% of the working papers will be co-authored across countries, while each year, 12 STSM are envisaged to take place across the network. At the Action's workshops, young researchers should constitute 60% or more of participants. The Action will organise specific sessions relating to the 6 axes described below (section D) relating to changing the scenario of PDAC research, the translational potential of the results, and their future impact on society	76 - 100%	High	High

Dependence = dependence of the achievement (of each MoU objective) on the Action networking.

Rapporteur assessment of the achievement of MoU objectives that the Action reported as achieved (76-100%)

The Action **did** achieve all the above objectives that it reported were more than 75% achieved.

Action explanation regarding MoU objectives reported as not fully achieved (less than 76%)

The table below shows the Action's explanation and the Rapporteur's analysis thereof for any MoU objectives that the Action reported as not fully achieved.

MoU Objective that was reported as not fully achieved	Action's explanation	Rapporteur's analysis
The Action did not report any objectives as not fully achieved.		

General Assessment of MoU objectives

The level of ambition of the MoU objectives was **High**
Overall, **the Action Achieved all MoU objectives** .

Deliverables

Delivery and level of dependence of deliverables reported by Action

Deliverable	Timing deliverable	Dependence reported by Action*
EUPancreas Website (http://eupancreas.com/) The Website has been updated periodically and got 25,262 visits (May 14, 2017) It describes the Action, lists the members, announces and reports on each activity, reports all STSMs awarded, lists the dissemination actions, and informs about pancreatic cancer for the lay population.	Delivered	High
EUPancreas e-Letters 9 e-letters have been designed and distributed to all members through email to report them on the past activities and achievements and inform them about the forthcoming activities.	Delivered	High
PancreOS Registry Jointly with Pancreatic Cancer Europe Platform and the EC-JRC, we have designed and implemented an European registry on pancreas cancer clinical and survival data. The protocol of PancreOS is available in the EUPancreas website.	Delivered	High
Report on PANCREATIC CANCER RESEARCH IN EUROPE As a result of the Multistakeholder Brainstorming Meeting held in Brussels on 12 April 2017 with key stakeholders. The report is disseminated through the EUPancreas and PCE websites and distributed to the EC, National Research Programs, and Scientific Societies.	Delivered	High
European Research Project Applications EUPancreas has been a driving force for 3 H2020 applications (PACK-ing, DIAMOND, PANCys), 1 ITN application (PROTEA), and 3 TRANSCAN application (PaCa-DIAG, BioPAC, PACADIAG). Only BioPAC was funded.	Delivered	High
Pathology workshop/training school materials It was organized by Irene Esposito (WG1, Germany), Fiona Campbell (WG1, UK) and Francisco X. Real (WG4, Spain), on December 4th-6th 2014 in CNIO, Madrid, Spain. The event had 25 attendees that excellently rated it. All materials can be found at EUPancreas website.	Delivered	High
Epidemiological questionnaires Cristina Bosetti (WG1, Italy) and Paulina Gómez (WG1, Spain) produced a set of standardized epidemiological questionnaires that are offered to the scientific community as a basis for harmonizing epidemiological research on pancreatic diseases across Europe. These modular resources can be found in EUPancreas website.	Delivered	High
EUPancreas-SOP for pancreatic cancer biobanking Irene Esposito (WG1, Germany) and Esther Molina (WG1, Spain) developed this Standard Operating Procedure (SOP) to harmonize the process pancreatic cancer tumour tissue biobanking across Europe, so as to provide optimally preserved tissue for research. The SOP can be found in EUPancreas website	Delivered	High
REPORT on Barriers in access to Personalised Medicine on pancreas cancer This report was based on the EAPM survey "Barriers in access to Personalised Medicine" conducted by Marleen Jansen and Angela Brand (WG4, Netherlands). The report can be found in EUPancreas website	Delivered	Medium
REPORT on Public-private translational health It records the endeavors and addresses the challenges in the interpretation of privately generated genetic data. It was provided by Amnon Shabo (Shvo, Israel) and Angela Brand (WG4, Netherlands).	Delivered	Medium

<p>“The Pancreatic Cancer White Paper” Launched by EAMP&EUPancreas (WG4), addresses to policymakers, legislators, and regulators to encourage innovation, enhance prevention, and broaden access to treatment. It also calls on all stakeholders to work closely to reduce PC burden on patients and society. The paper can be found in EUPancreas website.</p>	Delivered	High
<p>WEBCAST on EUPancreas in the 19th European Health Forum Gastein, 30/09/2016. The EHFG provides an ideal platform for discussion where health policy making come together to discuss next steps for a healthier Europe. Pancreas cancer was included in the agenda. The WEBCAST is available at EUPancreas website</p>	Delivered	High
<p>REPORT on EUPancreas in the 19th European Health Forum Gastein, 30/09/2016. The EHFG provides an ideal platform for discussion where health policy making come together to discuss next steps for a healthier Europe. Pancreas cancer was included in the agenda. The REPORT is available at EUPancreas website</p>	Delivered	High
<p>MINUTES of the MC meetings 7 MC meetings have been conducted during the EUPancreas COST Action (Brussels-2012, Madrid-2013, Southampton-2014, Liege-2014, Toledo-2015, Cluj-2016, Liverpool-2016). The minutes can be found in EUPancreas website</p>	Delivered	High
<p>MINUTES of the WG meetings 21 WG meetings have been conducted during the EUPancreas COST Action. The minutes can be found in EUPancreas website</p>	Delivered	High
<p>STSM REPORTS 27 STSM have been awarded during EUPancreas. Reports are available at EUPancreas website</p>	Delivered	High
<p>SUMMARY of some STSM reports This document comments on the experiences of some awardees. It can be found in EUPancreas website.</p>	Delivered	High
<p>MATERIAL from the TRAINING SCHOOL on “Genomics and Genthics” held in Aegina, Greece, September 10-15, 2015. Angela Brand (WG4, Netherlands) led this event that was organized jointly with CHIP-ME Action (IS1303), the European Society for Pharmacogenomics and Theranostics, and Golden Helix Genomic Medicine Alliance. Please, find presentations at EUPancreas website.</p>	Delivered	High
<p>MATERIAL of the TRAINING SCHOOL on "Interactions in Complex Disease Analysis" held in Antwerp, Belgium, April 27-29, 2016. Kristel Van Steen (WG2, Belgium) led this event that was co-organized by Antwerp University and co-sponsored by the Belgian Society of Statistics. Please, find the program and key presentations at EUPancreas website.</p>	Delivered	High
<p>REPORT on the TRAINING SCHOOL on “GENOMIC MEDICINE” held in Portoroz, Slovenia, during May 3-6, 2016. The event was led by Vita Dolzan (WG3, Slovenia) and co-organized by EU-ROS COST Action (BM1203) and supported by U-PGx, The Golden Helix and Genomic Medicine Alliance. Please, find the report at EUPancreas website</p>	Delivered	High
<p>SCIENTIFIC PUBLICATIONS AND PRESENTATIONS EUPancreas COST Action is acknowledged in 21 scientific articles, 3 book chapters, 2 scientific reports, and 9 oral/poster presentations delivered in scientific meetings. All this material can be found in EUPancreas website</p>	Delivered	High
<p>OTHER PUBLICATIONS EUPancreas has press releases and publications addressed to health policy makers, in addition to the White paper and the report on pancreatic cancer research in Europe.</p>	Delivered	Medium

This material can be found in EUPancreas website.		
MATERIAL to Support EUPANCREAS divulgation To answer questions like What? Where? Who? or When? A simple cootie catcher was designed. It can be found in EUPancreas website	Delivered	Low
PODCAST to disseminate EUPANCREAS A short video was filmed and made it available in EUPancreas website. Several members participated.	Delivered	High

* *Dependence reported by Action = the extent to which the delivery of the deliverable was dependent on the Action networking*

Analysis of level of delivery of deliverables

The level of delivery of the deliverables reported above is assessed as follows. Considering the Action's subjects the number of deliverables (24) is relatively high and the majority of them are of high quality and relevance. In total 21 WG and 7 MC meetings were held. The Action or the Action's leaders/members also had important roles in a number of additional networking meetings about pancreatic cancer, that included a wide range of different stakeholders. The Action had also important role in initiating and nourishing networking between different EU research centres. High number of STSMs were awarded (27) and a number of training schools of high relevance were given. The Action is acknowledged in 30 scientific publications. Several standardized epidemiological questionnaires were produced as well as standard operating procedure to be used to harmonize the process of pancreatic cancer tumour tissue bio-banking. Pancreatic Cancer White paper was prepared by the Action members and launched jointly with the European Alliance for Personalized Medicine. The EuPancreas website created includes all products and achievements of the Action and is of very high quality, very useful for the members of the Action (as well as the e-letters distributed), and also for researchers outside the Action as well as other stakeholders and the lay population.

Analysis of deliverables reported by the Action as delivered

The deliverables that the Action reported as delivered are confirmed.

Analysis of deliverables reported by the Action as not delivered but delivery foreseen within 2 years

The Action did not report plans to deliver any deliverables in the future.

The plans described by the Action to ensure the delivery within two years are credible

Analysis of deliverables reported by Action as not delivered and delivery not foreseen

The Action did not report any deliverables as not delivered and delivery not foreseen.

Analysis of the level of dependence on the Action networking of the achievement of the deliverables

The dependence on the Action networking of the achievement of the deliverables reported by the Action is confirmed

General Assessment of deliverables

The level of ambition of the deliverables was **high**
Overall, **the Action delivered > 4 deliverables**

Additional outputs / achievements

Co-authored Action publications

The Action reported 30 publications on the topic of the Action, co-authored by at least two Action participants from two countries participating in the Action, and for which the Action networking was necessary. The full list of publications appears in Annex I.

Action networking was necessary for ALL of the listed publications

The:

- quality of the Action's co-authored publications is very good.
Many of the papers are published in journals with a relatively good impact factor and some with a relatively high impact factor
- significance of the Action's co-authored publications is very good.
Most of the papers have important and significant data or information to report
- relevance to the Action of the Action's co-authored publications is very good.
For the large majority of the papers the relevance to the Action's MoU objectives is clear but for two or three of the papers it could be more clear.
- quantity of the Action's co-authored publications is good.
When considering the The number of published papers the quantity is very good but the networking behind many of the papers seems to involve just the minority of the actions members reflected in the numbers of co-authors and the number of countries involved.

Projects and proposals resulting from Action activities

The Action reported the following projects resulting from Action activities involving at least one Action participant, and for which the Action networking was necessary.

In addition the Action reported 7 proposals resulting from Action activities involving at least one Action participant, and for which the Action networking was necessary.

Relevance of the Action's proposals and/ or projects is **very good**

Quantity of the Action's proposals and/ or projects is **good**

Action networking was necessary for ALL of the listed proposals / projects

Other outputs / achievements

The table below shows the other outputs/ achievements and level of dependence on the Action networking reported by the Action and the Rapporteur's assessment thereof.

Other output/ achievement reported by Action	Dependence reported by Action	Dependence assessed by Rapporteur
The Pancreatic Cancer White Paper	High	High

<p>The Pancreatic Cancer White Paper was launched by the EAMP in collaboration with EUPancreas (WG4). It is a direct appeal to policymakers, legislators, and regulators to encourage innovation, to enhance prevention, and to broaden access to treatment. It also calls on all stakeholders to work more closely together to reduce the burden of pancreatic cancer on patients and on society</p> <p>http://eupancreas.com/wp-content/uploads/2013/07/Press-Release-White-Paper-launched-to-step-up-fight-against-pancreatic-cancer.pdf</p>		
<p>Epidemiological questionnaires to be used by the pancreas cancer research community</p> <p>WG1 produced a set of standardized epidemiological questionnaires (a core questionnaire augmented by several additional documents to cover more specialised fields of interest) that are offered to the scientific community as a basis for harmonizing epidemiological research on pancreatic diseases across Europe</p> <p>http://eupancreas.com/wg1</p>	<p>High</p>	<p>High</p>
<p>EUPancreas-SOP for pancreatic cancer biobanking to be used by the pancreas cancer research community</p> <p>WG1 developed this Standard Operating Procedure (SOP) to harmonize the process pancreatic cancer tumour tissue biobanking across Europe, so as to provide optimally preserved tissue for research</p> <p>http://eupancreas.com/wp-content/uploads/2014/04/EUPancreas_SOP.pdf</p>	<p>High</p>	<p>High</p>
<p>The pancreatic cancer data collection protocol "PancreOS". The objective of the PancreOS (Pancreatic cancer overall survival registry in Europe) is to build up a large European pancreatic hospital-based cancer registry, gathering information related to all aspects of the management of patients with pancreatic cancer– from initial symptoms, diagnosis and throughout the treatment continuum. This is an initiative supported by</p>	<p>High</p>	<p>High</p>

<p>the COST Action EUPancreas, the European Network of cancer registries (ENCR) and JRC, and Pancreatic Cancer Europe (PCE). The protocol will serve for a standardized data collection of pancreatic cancer clinical variables, available to the entire research community.</p> <p>http://eupancreas.com/wp-content/uploads/2013/07/data_collection_protocol_PancreOS_17112016.pdf</p>		
<p>“Barriers in access to Personalised Medicine for pancreatic cancer patients” report, resulting from the EAPM survey conducted by EUPancreas members belonging to WG4. Based on a EU-index accounting for barriers in access to Personalized Medicine, several barriers were highlighted for pancreatic cancer, at the patient, healthcare system, research and policy making level, amongst others.</p> <p>http://eupancreas.com/wp-content/uploads/2014/04/PersonalisedMed_MEJansen.pdf</p>	High	High
<p>Report on "Public-private translational health record endeavors could address challenges in the interpretation of privately generated genetic data". This report lists health informatics requirements needed in order to successfully run case-based reasoning, where the case (i.e. pancreatic cancer patients) is the independent lifetime health record.</p> <p>http://eupancreas.com/wp-content/uploads/2014/04/STSMReport_Shabo.pdf</p>	High	High
<p>Report on Pancreatic Cancer Research. This report summarizes the discussions and conclusions drawn after the Multistakeholder brainstorming meeting on Pancreatic Cancer Research Priorities in Europe. This report revealed the need for strengthening and implementing targeted research policies that enhance pancreatic cancer control efforts across the European Union.</p> <p>http://eupancreas.com/wp-c</p>	High	High

[content/uploads/2013/08/NM-alats-Report-Pancreatic-Cancer-Research-in-Europe-Multistakeholder-Brainstorming-Meeting-2017-16052017.pdf](https://www.pancreaticcancer-europe.eu/news-calendar/news/content/uploads/2013/08/NM-alats-Report-Pancreatic-Cancer-Research-in-Europe-Multistakeholder-Brainstorming-Meeting-2017-16052017.pdf)

<http://www.pancreaticcancer-europe.eu/news-calendar/news/>

The quality, quantity and dependence (on the Action networking) of the other outputs/ achievements was assessed as follows.

The quantity of the Action's other outputs is relatively high and the quality of all seven achievements is very good. All are significant in one way or another. The Pancreatic Cancer White Paper will hopefully reach the ears of sufficient numbers of scientists, clinical researchers, medical doctors, policymakers, legislators and regulators to have a real influence and make a count in the effort to encourage innovation, to enhance prevention, and to broaden access to treatment. The importance of producing a set of standardized epidemiological questionnaires for harmonizing epidemiological research on pancreatic disease and a standardized operating procedure (SOP) to harmonize the process of pancreatic cancer tumour tissue biobanking across Europe are important tasks for the scientific community. Also the establishment of the PancreOS (Pancreatic cancer overall survival registry in Europe) which objective is "to build up a large European pancreatic hospital-based cancer registry, gathering information related to all aspects of the management of patients with pancreatic cancer". As stated in the Action report "The protocols created will serve for standardized data collection of pancreatic cancer clinical variables, available to the entire research community".

Assessment of additional outputs and achievements (including co-authored publications and proposals/projects)

The level of ambition of additional outputs and achievements was **high**.
Overall, **the Action achieved > 4 valid additional outputs / achievements** .

General Assessment

The Action's outputs and achievements are **excellent**.

Impacts

The Action reported the following impacts (the short- to long-term scientific, technological, and / or socioeconomic changes produced by a COST Action, directly or indirectly, intended or unintended) that have resulted, or might result, from the Action.

Description of the impact	Type of impact	Timing of impact
EUPancreas has impacted in the field of omics data integration by innovating with new strategies and methods that are now been applied by the scientific community.	<ul style="list-style-type: none"> Scientific / Technological 	Achieved
Validity, relevance and significance (in particular importance and timeliness) of the impact reported by the Action: This statement is valid. The achievement is of relevance and the impact is significant for the Action members both on scientific and technological level		
EUPancreas has also impacted in the training of early career investigators (ECIs) through the STSM tools (please see their reports in http://eupancreas.com/stsm) and the 4 training schools, three of them co-organized jointly with other institutions and COST Actions (http://eupancreas.com/training). In addition, ECIs were invited to actively participate in EUPancreas scientific initiatives being leaders of one of the research stream of WG3 (Definition of a risk population to be included in future clinical studies for early detection), as well as in coordination and dissemination activities. It is of note that Dr. Esther Molina has been involved in the coordination of the Action and took responsibilities of dissemination activities (WEBSITE, e-Letter, twitter). ECIs have also benefited of the Action publications being co-authors in most of them.	<ul style="list-style-type: none"> Scientific / Technological Societal 	Achieved
Validity, relevance and significance (in particular importance and timeliness) of the impact reported by the Action: This statement is highly valid and is of relevance and of importance. Training of young researchers from different disciplines and backgrounds were one of the main goals of the action and also one of the successes, reflected in 4 training workshops/schools and 27 STSM. ECIs were leaders of some of the Action's activities and were also involved in the coordination of the Action. One of the successful outcomes of the Action was the EUPancreas website and as can be understood from the report that success was mainly due to the excellent work of one of the ECIs.		
EUPancreas has impacted on the pancreatic cancer scientific community by providing the researchers with tools (SOP, clinical and epidemiological questionnaires, clinical and omics registries) that allow to perform standardized studies and the possibility to pool resources in large research consortia, which pave the way for future European studies potentially funded by H2020 and other international agencies. The information the registries will provide will allow to better characterize the disease in Europe identifying patient management heterogeneities what certainly impact on health policies towards the improvement of pancreatic cancer patient management through a cross-border approach.	<ul style="list-style-type: none"> Scientific / Technological 	Achieved
Validity, relevance and significance (in particular importance and timeliness) of the impact reported by the Action: This statement is valid and the developments of various tools that allow standardized studies, that increase the quality of pooled resources from large research projects and within and between consortia, is very important for future European studies. These efforts are of high relevance and of high significance and importance		

<p>A foreseen impact of EUPancreas regards to the efforts done to increased awareness of pancreatic cancer research gaps and needs in Europe.</p> <p>In this regard, EUPancreas joint forces with the European Alliance for Personalized Medicine (EAPM, http://euapm.eu/) to and launched the "White Paper on Pancreatic Cancer" addressed to legislators and regulators to increase their awareness on this dreadful disease.</p> <p>The workshop EUPancreas organized during the European Health Forum Gastein in 2016 provided a great opportunity to place pancreatic cancer in the agenda of EC and national health policymakers, legislators, and regulators.</p> <p>Importantly, EUPancreas organized, jointly with Pancreatic Cancer Europe (PCE, http://www.pancreaticcancereurope.eu/) a meeting in Brussels on April 12, 2017 with all stakeholders involved in pancreatic cancer research and patient management, including patient organizations and the private domain. Researchers and stakeholders attending that meeting suggested prioritize: 1) research into diagnosis and accurately classifying precursor lesions (cystic tumours, IPMN, and PanINs) according to imaging (MRI) features and biomarkers, 2) research to define the real "window of opportunity" for PC screening, 3) research into identification markers for response prediction towards PC "personalized treatment" and 4) the establishment of multistakeholder cooperative teams including multidisciplinary research and health professional teams, private sector representatives, patients, health economics professionals, and policy makers. The discussant also considered important to break up silos and to foster collaborative cross-border research to avoid duplication of efforts towards a more efficient research. This meeting also revealed the need for strengthening and implementing targeted research policies that enhance pancreatic cancer control efforts across the European Union. Pancreatic cancer continues to be a leading cause of cancer-related death and, consequently, there is a need for increasing funding for pancreatic cancer research in an effort to contribute to an overall reduction of its incidence and mortality. This demand requires of the political commitment both at the EC and the national levels and should be supported by a multinational and multistakeholder approach, including patient organizations. To this end, the European Union should prioritize targeted research on pancreatic cancer "all-level" prevention (primary, secondary and tertiary) and direct more efforts towards the establishment of networks or programs that encourage solid cross-border collaboration for pancreatic cancer research, promote public-private partnership favouring convergence of research interests, provide more funding opportunities for independent academic research and for translational research to place latest discoveries into health practice and pancreatic cancer control, and, last but not least, implement effective policies that promote behaviours that are conducive to disease prevention. Five urgent actions to be taken in the close future were identified and included in the report summarizing the meeting discussions. The report can be found in the EPancreas</p> <p>http://eupancreas.com/wp-content/uploads/2013/08/NMalats-Report-Pancreatic-Cancer-Research-in-Europe-Multistakeholder-Brainstorming-</p>	<ul style="list-style-type: none"> • Scientific / Technological • Economic • Societal 	<p>Foreseen within 2 years</p>
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[Meeting-2017-16052017.pdf](#) and PCE websites
(<http://www.pancreaticcancereurope.eu/news-calendar/news/>)

Validity, relevance and significance (in particular importance and timeliness) of the impact reported by the Action:
This statement is valid. To increase the awareness of research gaps and needs in Europe is of high importance and the efforts of the Action's chair and other leaders within the EUPancrease in that direction has been considerable and is of relevance.

The extent to which the Action has advanced the careers, skills and networks of researchers including ECIs (as described by the Action) is poor.

General assessment of impacts

The Action's impacts are best described as follows.
Multiple highly significant impacts are reasonably foreseen for the future OR one highly or moderately significant impact is already observed [Very Good]

Dissemination and exploitation of Action results (other than co-authored Action publications listed previously)

Dissemination meetings funded by the Action

The following Dissemination meeting(s) funded by the Action added value for the Action:

- 3rd EAPM Annual Conference "Steps in the Right Direction to a Brave New, Healthier & SMART Europe", 01-01-1970 - 01-01-1970, 5
- Taking Stock: Where we are now and the necessary next steps to take to realize an environment for personalised medicine, 01-01-1970 - 01-01-1970, 5

Action website

<http://eupancreas.com/objectives>

The:

- openness and user-friendliness of the Action website are excellent
- content of the Action website (programmes and minutes of all events present, all outputs/deliverables accessible from website) is excellent

The Action website was an effective means of disseminating the Action.

Other dissemination activities

The following other dissemination activities reported by the Action were effective and added value

Item/activity	STAKEHOLDER AND DISSEMINATION MEETING 19TH European Health Forum Gastein (EHFG), 30 September 2017, Gastein (Austria)
Target Audience	The EHFG provided an ideal platform for discussion where various stakeholders from the field of health policy making come together to discuss next steps for a healthier Europe
Outcome of the activity	The EUPancreas COST Action aim was to maximize through this event the impact of pancreatic cancer research via a research network supported by the Action on policy makers, regulatory bodies, national decision makers and the private sector. Key stakeholders from administration, academia, NGOs and industry discussed how a European coordinated approach, such as the COST Action „EUPancreas”, is combatting pancreatic cancer in Europe. Experiences from the Action were described, such as those contributing to improve the management of the disease in European Reference Centers (ERCs), and several others aimed at reducing the burden of this deadly disease.
Hyperlink	http://eupancreas.com/wg4 http://www.ehfg.org/fileadmin/ehfg/Programm/2016/EHFG_Final_Programme.pdf http://www.ehfg.org/fileadmin/ehfg/Programm/2016/EHFG2016CR.pdf http://www.ehfg.org/detailevent1.html?eid=161 http://webcasting.streamdis.eu/Mediasite/Play/2ff27799482a443492e68d1cf65a781e1d?catalog=4953800d-b872-4fae-b3ca-89831945cc52

Item/activity	Patient Management STAKEHOLDER AND DISSEMINATION MEETING 4rd European Alliance for Personalised Medicine (EAPM) Annual Conference "Taking stock", 5-7 April 2016, Brussel (Belgium)
Target Audience	Stakeholders, policy makers, the Commission and Member States representatives. Members of EUPancreas WG4 participated in this 4th edition of the EAPM Annual Conference.
Outcome of the activity	A two-day series of roundtables were held to discuss about the need for rising awareness on personalized medicine integration at European and national levels. Report available at:

	http://eupancreas.com/wp-content/uploads/2013/07/EAPM-Bulletin-Issue-14-May-2016.pdf
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wg4

Item/activity	Patient Management STAKEHOLDER AND DISSEMINATION MEETING 3rd European Alliance for Personalised Medicine (EAPM) Annual Conference. 2-3 June 2015, Brussel (Belgium)
Target Audience	Stakeholders (e.g. directors of national health institutes of different European countries), policy makers, health professionals, pharmaceutical company representatives, researchers
Outcome of the activity	Round table: Unlocking the value of research to provide evidence and education of healthcare professions to realise the benefits for today and tomorrow's discoveries. During this round table, the COST Action highlighted the importance to develop and adequately resource a pancreatic cancer patient-centred European Translational Research Platform, to maximize the impact of new and existing activities at European and national levels.
Hyperlink	http://eupancreas.com/wg4 http://eupancreas.com/wp-content/uploads/2014/04/2015-Presidency-Conference-programme-V2-DH-1-1.pdf https://www.youtube.com/watch?v=ouTWS9jtS4E&feature=youtu.be

Item/activity	Pancreas Cancer Forum 2013, 28-30 November 2013, Madrid (Spain)
Target Audience	Leading oncologists and pancreatic cancer researchers including EUPancreas members
Outcome of the activity	During the meeting, EUPancreas members reviewed the latest research into the pathogenesis, prognosis and management of pancreatic cancer. In particular, the forum aimed to place preclinical, molecular and translational advances into a clinical context for the audience of oncologists from across Europe. At the same time, the WGs and MC held meetings to discuss around these issues. Future activities were also tackled during the meetings.
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wp-content/uploads/2013/08/Annex-3_EU-Pancreas-Pancreatic-Cancer-Forum-2013_FINAL.pdf

Item/activity	Workshop on "omics integration", 14 February 2014, Heidelberg (Germany)
Target Audience	Researchers from the omics data field working mainly on pancreatic cancer. WG2 EUPancreas members.
Outcome of the activity	This workshop was held at the Funcional Genome Analysis Unit of the German cancer reserch center DFKZ. (Deutsches Krebsforschungszentrum). The workshop focused on the integration of heterogeneous and large omics data for pancreatic cancer research through novel data integration methodologies, and available biological data sources. A WG2 meeting was held after the Workshop.
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wp-content/uploads/2013/08/Annex-3_Agenda-BM1204_Worshop-WG2_Heidelberg-14.02.14.pdf

Item/activity	LONDON PANCREAS WORKSHOP 2014, 1-2 May 2014, London (UK)
Target Audience	Delegates from the UK and abroad, comprising of clinicians (surgeons, gastroenterologists, radiologists, pathologists, oncologists amongst others), scientists, pharmaceutical company representatives and pancreatic cancer charity representatives.
Outcome of the activity	A wide range of topics relating to pancreatic cancer clinical and scientific problems were discussed and progress updates presented. WG3 celebrated a meeting during this workshop, where the main research streams were presented and discussed: risk population study, IPMNs, etc.
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wp-content/uploads/2013/08/Annex-3_Agenda-BM1204_Worshop-WG2_Heidelberg-14.02.14.pdf

	content/uploads/2013/08/Annex-3_2014-The-London-Pancreas-Workshop-v51.pdf
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Item/activity	Combined EPC & IAP meeting, 24-28 June 2014, Southampton (UK)
Target Audience	Gastroenterologists, oncologists, epidemiologists and all other clinicians or researchers involved in pancreatic cancer.
Outcome of the activity	An ad-hoc EUPancreas session on IPMN held on Thursday 26 June dealt with the following topics: Modeling IPMN Subtypes using Genetic Engineered Mice; Perspective of the Human IPMNs. The 3rd MC meeting was held during the Conference on Wednesday 25 June 2014.
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wp-content/uploads/2013/08/7.-Final-Full-Scientific-Programme-270514.pdf

Item/activity	Patient Management STAKEHOLDER AND DISSEMINATION MEETINGS in the Cystic Tumours of the Pancreas: Patient & Public Forum, 3 October 2014, London (UK)
Target Audience	Stakeholders, EUPancreas WG members
Outcome of the activity	Several EUPancreas members participated and presented in this event representing the COST Action EUPancreas BM1204.
Hyperlink	http://eupancreas.com/wp-content/uploads/2013/08/8.-Cysts-Patient-Forum-Agenda-3Oct14.pdf

Item/activity	Conference "CAPITA SELECTA IN COMPLEX DISEASE ANALYSIS", 24-26 November 2014, Liege (Belgium)
Target Audience	Data scientists, EUPancreas WG members
Outcome of the activity	The focus of the third edition of Capita Selecta in Complex Disease Analysis CSCDA2014 was on: I. Population and patient heterogeneity II. Data fusion and omics integration for rare diseases. WGs individual meetings and the 4th MC meeting were held during the Conference.
Hyperlink	http://eupancreas.com/wp-content/uploads/2013/08/CapitaSelecta_20141.pdf http://www.statgen.ulg.ac.be/CSCDA2014/cscda2014.html

Item/activity	PDAC BIOBANKING WORKSHOP organized jointly with the Institute of Pathology of The University of Heidelberg, 27 April 2015, Heidelberg (Germany)
Target Audience	Pathologists, researchers of other fields involved in pancreatic cancer.
Outcome of the activity	Members from different WGs visited the NCT and EPZ biobanks and were informed by the biobank leaders from NCT and EPZ, about organizational features, protocols and standard operating procedures for pancreatic cancer that are in place at these facilities.
Hyperlink	http://eupancreas.com/wp-content/uploads/2014/04/Agenda_WG1-Meeting_April2015.pdf http://eupancreas.com/wp-content/uploads/2014/04/Esposito_final-gesendet.pdf

Item/activity	Patient Management STAKEHOLDER AND DISSEMINATION MEETINGS in the Big Data Value Association Summit – Healthcare Session, 18 June 2015, Madrid (Spain)
Target Audience	Data scientists, researchers
Outcome of the activity	The COST Action EUPancreas was presented in the Healthcare session on "Getting the value of BD. The role of BD in Personalized Medicine", a brainstorming about the needs of big data in Healthcare.
Hyperlink	http://eupancreas.com/meetings-events

Item/activity	47th ANNUAL MEETING OF THE EUROPEAN PANCREATIC CLUB, 23-26 June 2015, Toledo (Spain)
Target Audience	Stakeholders, clinicians (gastroenterologists, surgeons, oncologists), epidemiologists, and all other involved in pancreatic cancer research.
Outcome of the activity	Several conferences were held by EUPancreas members during this meeting. 26th June 2015. 2nd EU Multi-Stakeholder Platform on Pancreatic Cancer. Members of the EUPancreas COST Action met to discuss on the 3 workstreams ongoing within the platform: diagnosis, disease registries and awareness. During the joint WGs meeting the members shared information and challenges on the future planned activities.
Hyperlink	http://eupancreas.com/meetings-events

Item/activity	OMICS INTEGRATION IN PDAC WORKSHOP: "Cancer genomics and personalised medicine workshop: focus on pancreas cancer", 1 July 2015, Barcelona (Spain)
Target Audience	Data scientists, EUPancreas WG2 members
Outcome of the activity	This workshop offered examples of the application of omics in pancreatic cancer with the ultimate goal of enhancing pancreatic cancer care and the prevention of this disease. Other objectives were to identify emerging groups working on omics data analysis and foster collaborations between them and PDAC omics data generating groups; to look for available omics data on PDAC and evaluate the possibility to pool them; to train members, specially ECIs; and to increase awareness on pancreas cancer research and EUPancreas.
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wp-content/uploads/2013/08/COST_WG2Workshop2015.pdf

Item/activity	JOINT WORKSHOP WITH UEG, EPC, EFISDS, and EAPM ON: "Burning Issues in Pancreatology", 5-7 November 2015, Cluj-Napoca (Romania)
Target Audience	Clinicians and researcher of diverse disciplines working on pancreatic cancer.
Outcome of the activity	This scientific workshop covered emerging needs for pancreas cancer research and management as well as aspects related to acute and chronic pancreatitis, precursor lesions of pancreatic cancer, pancreatic cancer, and surgical-related issues. EUPancreas participated in three Roundtable on Evidences from epidemiology on pancreas cancer etiologic factors, Omics contribution to disentangle the molecular complexity of pancreatic cancer, and Personalized medicine for pancreatic cancer. The latter one was co-organized jointly with the European Alliance for Personalized Medicine.
Hyperlink	http://eupancreas.com/meetings-events http://pancreas2015.webs.com/ http://eupancreas.com/wp-content/uploads/2013/08/Program-7-EFISDS-EPC-EUpanc-2015-3.pdf

Item/activity	European Pancreas Cancer Epidemiology Workshop and 2016 Pancreatic Cancer Case Control Consortium (PanC4), 22-23 June 2016, Milan (Italy)
Target Audience	Epidemiologists working on pancreatic cancer prevention
Outcome of the activity	The Panc4 conference focused on recent progress of the Panc4 Consortium projects though specially emphasizing the role of infectious agents and microbioma in the aetiology of pancreas cancer, this including diabetes mellitus and obesity as its risk factors. The workshop contemplated presentations of projects and studies conducted by WG1 members, in order to interact with researchers from the Panc4 Consortium.
Hyperlink	http://eupancreas.com/wg1#w1-5 http://eupancreas.com/wp-content/uploads/2014/04/Final-Agenda-for-PanC4-meeting-in-Milan-Italy-on-June-23-2016.meeting.pdf http://eupancreas.com/wp-content/uploads/2013/07/AgendaWG1Panc4meeting_17062016.pdf

Item/activity	48th ANNUAL MEETING OF THE EUROPEAN PANCREATIC CLUB, 6-9 July 2016,
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	Liverpool (UK)
Target Audience	Researchers and clinicians of diverse disciplines involved in pancreatic cancer.
Outcome of the activity	EUPancreas members participated in round tables and discussions on pancreatic Cancer (i.e. the place of surgery and local and systemic therapies, Cystic tumours, genetics and epigenetics of pancreatic diseases, among many others of high scientific relevance). Also, EUPancreas members participated in the Pancreatic Cancer Europe meeting held during the conference, to initiate a research work stream resembling that of EUPancreas. A WG and MC meeting was also held.
Hyperlink	http://eupancreas.com/meetings-events http://epc2016.org/

Item/activity	EFISDS meeting “Pancreatic cancer: Where are we now? & Where are we going?”, 28-29 October 2016, Cluj-Napoca (Romania)
Target Audience	Clinicians and researcher of diverse disciplines involved in pancreatic cancer.
Outcome of the activity	This second edition of the scientific workshop on pancreas cancer research and management included special sessions dedicated to pancreatitis, precursor lesions of pancreatic cancer, pancreatic cancer, and surgical-related issues. Members of EUPancreas COST Action presented some on the latest advances on these issues.
Hyperlink	http://eupancreas.com/meetings-events

Item/activity	Multistakeholder brainstorming meeting: “Pancreatic cancer research priorities in Europe”
Target Audience	Stakeholders, policy makers, pharmaceutical company representatives, researchers of diverse disciplines, EC officers, patient organizations. This meeting was jointly organized by Pancreatic Cancer Europe and EUPancreas
Outcome of the activity	The purpose of this meeting was to perform a global scale analysis of pancreatic cancer research unmet needs to assess the actions needed to be done in Europe. Several EUPancreas members and Pancreatic Cancer Europe (PCE) Multistakeholders were invited to discuss on this issue during this meeting. Debates were held around the identification and prioritization of the main aspects to address in pancreatic cancer research in Europe in accordance with the international scenario. Strategies to lobby to increase awareness on pancreatic cancer research needs and funding in Europe were also discussed. The outcome of this meeting was a report summarizing the conclusions of the meeting, with a prioritized list of PC research areas and actions, to be circulated among stakeholders, funding agencies and other actors.
Hyperlink	http://eupancreas.com/meetings-events http://eupancreas.com/wp-content/uploads/2013/08/PCE-Research-meeting-Agenda.pdf http://www.pancreaticcancereurope.eu/

Item/activity	PancreOS meetings
Target Audience	EUPancreas members and researchers interested in participating in the PancreOS registry, pharmaceutical company representatives and patient organizations interested in supporting the registry.
Outcome of the activity	PancreOS is intended to be a solid data base of pancreatic cancer, which will make available regular information on the burden and clinical management of pancreatic cancer in Europe. It is supported by several organisations, including the Action EUPancreas, the European Network of cancer registries (ENCR), the JRC, and Pancreatic Cancer Europe (PCE). Several meetings supported by the Action were celebrated: - the kick-off meeting on 17 March 2016, Madrid (Spain) - the meeting at JRC/EC on the data collection protocol on 26 September 2016, Ispra (Italy)
Hyperlink	http://eupancreas.com/wg1 http://eupancreas.com/wg4#pancreos-wg4 http://eupancreas.com/wp-content/uploads/2014/04/MinutesPancreOS_17March2016.pdf http://eupancreas.com/wp-

content/uploads/2013/07/data_collection_protocol_PancreOS_17112016.pdf

The following other dissemination activities reported by the Action were not effective or added no value

Exploitation activities

The following activities to ensure exploitation (use, in particular in a commercial context) of the Action's achievements reported by the Action were effective and added value

Item/activity	Multistakeholder brainstorming meeting: "Pancreatic cancer research priorities in Europe" 12 April 2017, Brussel (Belgium)
Target Audience	Stakeholders, policy makers, EC Officers, funding organizations, patient organizations
Outcome of the activity	A report summarizing the conclusions of the meeting, with a prioritized list of PC research areas and actions. This report will be distributed through multiple dissemination channels in order to claim more attention to pancreatic cancer research needs. http://eupancreas.com/meetings-events

Item/activity	Press releases
Target Audience	Stakeholders, policy makers, researchers, clinicians, public.
Outcome of the activity	Press releases referring to the COST Action BM1204 are available at: http://eupancreas.com/publications - White Paper launched to step-up fight against pancreatic cancer - 30 years and counting: where next in EU's battle against cancer? - Article on the BM1204 COST Action (EUPancreas) published in the Parliament Magazine - Tackling the silent killer in Europe - Article on the BM1204 COST Action (EUPancreas) published in the Pan European Networks

Item/activity	Scientific Workshops/Conferences organized or supported by EUPancreas
Target Audience	Stakeholders, EUPancreas WG members, researchers, pharmaceutical company representatives.
Outcome of the activity	Workshops and Conferences are listed at http://eupancreas.com/publications : - "First Annual Conference" jointly organized with the "Pancreatic Cancer Forum – 2013". 5-7th November 2013. Madrid, Spain. - "Integromics" workshop. February 2014. Heidelberg, Germany. - "The London Pancreatic Workshop 2014. A forum for state of the art clinical and basic research in pancreatic cancer". 2nd May 2014. Bart's Cancer Inst. London, UK. - "The first pancreatic cystic tumour patient forum". 3rd October 2014. Royal Free Hospital, London. - "Capita Selecta in Complex Disease Analysis". 24-26th November 2014. Liège, Belgium. - The 47th Annual Meeting of the European Pancreatic Club. 23–27th June 2015. Toledo, Spain. - "Cancer genomics and personalised medicine workshop: focus on pancreas cancer". 1st July 2015. Barcelona, Spain. - WG4 TRAINING SCHOOL on "Genomics and Gethics". 10-15th September 2015. Aegina, Greece. - Workshop on Pancreatic Cancer. Towards a Clinical Registry of Pancreatic Cancer: PancreOS. 5th October 2015. Madrid, Spain. - PancreOS kick-off meeting. 17th March 2016. Madrid, Spain. - WG2 TRAINING SCHOOL on "Interactions in Complex Disease Analysis. The world of interactions around us" 27-29 April 2015. Antwerp, Belgium. - WG3 TRAINING SCHOOL on "GENOMIC MEDICINE – Bridging research and the clinic" 3-6 May 2016. Portoroz, Slovenia. - WG1 PATHOLOGY OF THE EXOCRINE PANCREAS – OF MICE AND MEN. 4-6 December 2014, Madrid, Spain

Item/activity	19TH European Health Forum Gastein (EHFG), 30 September 2017, Gastein (Austria)
Target Audience	Key stakeholders from the administration, academia, NGOs and pharmaceutical company representatives discussed how a European coordinated approach, such as the COST Action

	„EUPancreas”, is combatting pancreatic cancer in Europe.
Outcome of the activity	Experiences from the Action were described, such as those contributing to improve the management of the disease in European Reference Centers (ERCs), and several others aimed at reducing the burden of this deadly disease. http://eupancreas.com/wg4 http://www.ehfg.org/fileadmin/ehfg/Programm/2016/EHFG_Final_Programme.pdf http://www.ehfg.org/fileadmin/ehfg/Programm/2016/EHFG2016CR.pdf http://www.ehfg.org/detailevent1.html?eid=161 http://webcasting.streamdis.eu/Mediasite/Play/2ff27799482a443492e68d1cf65a781e1d?catalog=4953800d-b872-4fae-b3ca-89831945cc52

Item/activity	Social networking via Twitter @EUPancreas
Target Audience	EUPancreas members. A broad audience was reached, as reflected by the type of followers: clinicians, pharmaceutical companies and patient organizations from Europe, the United States and other regions.
Outcome of the activity	@EUPancreas has around 400 followers. Nearly 300 tweets were posted. We advertised herewith our activities (training schools, meetings, newsletters, etc.) and news of interest for the pancreatic cancer research community (research papers reporting relevant research findings, funding calls, etc.).

Assessment of Action Dissemination and Exploitation Approach

The effectiveness of the Action’s dissemination and exploitation approach (other than co-authored publications) is assessed as follows The Action’s dissemination and exploitation approach is varied and the effectiveness is good. Standardization of research tools and creation of questionnaires, tumour tissue collection protocols and various tools for utilising databases etc. are very important products of the Action and have been disseminated through wide range of various meetings both within the Action and at international meetings and through the EuPancreas webside as well as through several published papers in good journals. Workshops and training schools were also effective and important means of dissemination of products of the Action as well as to utilise the wide experience and knowledge of the senior scientists within the Action to train early career investigators. The EuPancrease website is of very high quality and is an effective way of disseminating the various activities within the Action and the products and achievements of the Action, both to the Action’s members and also other stakeholders and the lay population.

Assessment of Action dissemination and exploitation activities

The assessment is:

<p>All Action activities focusing on dissemination of Action results were effective [Very Good] All Action activities focusing on exploitation of Action results were effective [Very Good]</p>

Action Success(es)

The following table shows the success(es) reported by the Action and the Action Rapporteur's comment.

Success reported by Action	Action Rapporteur comment
<p>First of all, EUPancreas has been very successful in setting up a European platform for pancreatic cancer research by uniting groups and providing them with research tools and a setting for scientific discussions and ECIs training. The action's success is also supported by its scientific contributions and innovations in the omics data integrative field, as well as by the several international collaborations that have been started within EUPancreas and the new ones that are being discussed beyond Europe. The vision and mission of EUPancreas will continue under the auspices of Pancreatic Cancer Europe Research Work Stream (http://www.pancreaticcancereurope.eu/work-streams/research/)</p>	<p>The success description above is valid. Regarding the success dimensions, truly the EUPancreas Action has been successful in building capacity in bridging separate fields of science and in the demographic inclusiveness of networking but whether it will contribute to "scientific breakthrough" remains to be seen.</p>
<p>Another EUPancreas success regards to its ability to place pancreatic cancer in the agenda of EC and national health policymakers, legislators, and regulators. The "White Paper", the workshop organized during the EHFG2016, and the brainstorming meeting on pancreatic cancer research in Europe resulting on a report that is now widely distributed, have been the main instruments that led to this success. The expected impact of these efforts is to increase the support of pancreatic cancer research in Europe towards the disease prevention and improvement of patient management. This task has been prioritised and will be followed up by Pancreatic Cancer Europe (http://www.pancreaticcancereurope.eu)</p>	<p>The success description is valid except in regards to the three success dimensions listed, then it remains to be seen if the achievements described will result in breakthrough in socio-economic or societal applications.</p>

Other matters

This section is confidential to the Management Committee, and the COST Association (Administration, Scientific Committee and Committee of Senior Officials), and is not included in the version of the report that is published on the COST website.

Added value of extension

The validity of the Action's description of the added value of the extension is as follows: Above the Chair describes the reasons why the extension of the Action was approved, not added value of the extension, except that due to lack of additional funding the final meeting of the Action was replaced with a small but a successful multistakeholder brainstorming meeting on pancreatic cancer research in Europe. It is rather sad that the planned final meeting, involving all the Action's members and various other stakeholders, reporting on the Action's successful projects and achievements, could not take place due to lack of funding. From reading the report, the added value of the extending of the Action was securing the viability of the PancreOS and PC-omics database, both a very important tasks. The STSM pending was also successfully completed.

Difficulties in implementing the Action

The Action Rapporteur made the following observations regarding difficulties in implementing the Action: As described by the Action's chair the Action faced a number of unnecessary non-scientific challenges mainly caused by events towards and within the COST office. These challenges created difficulties in the EuPancreas management and resulted in disappointment and demotivation within the Action heavily increasing the difficulties for the management team and creating a very high burden on the Action chair.

Suggestions for improvements to COST framework/ procedures

The Action Rapporteur made the following suggestions for changes to the COST framework:

Emerging topics / developments in the field of the Action

The Action reported the following emerging topics/ developments in the field of the Action.

- Among the emerging topics identified by the Action that could deserve of further consideration are:
 - Exploring the role of microbiome in cancer risk and prevention.
 - Understanding the biological relationship between diabetes mellitus and cancer.
 - Exploring the potential of radiomics in cancer subphenotyping.
 - Integrating established risk factors with biomarkers (omics) towards a "personalized prevention" of cancer.
 - Radiological and molecular appropriate classification of pancreatic cancer precursor lesions.
 - Studying new therapeutic strategies in immunotherapy.
 - Exploring the role of cachexia and its metabolic pathways in cancer progression.
 - Identifying synthetic lethality combinatorial approaches.
 - Understanding the impact of aging and co-morbidity processes in cancer progression.

The Action Rapporteur made the following comment on the emerging topics/ developments in the field reported by the Action.

- The topics listed by the Action Chair are all very valid and emerging topics and important for future developments.

Action Rapporteur

This Final Assessment Report was submitted on 2017-07-10 by:
Ms Rosa Björk Barkardóttir
Landspítali National and University hospital
Iceland

Annex 1: List of publications

The Action reported 30 publications on the topic of the Action, co-authored by at least two Action participants from two countries participating in the Action, and for which the Action networking was necessary.

Co-authored Action publications - peer-reviewed

- EU Pancreas – An Integrated European Platform for Pancreas Cancer Research: from Basic Science to Clinical and Public Health Interventions for a Rare Disease. Milne R, La Vecchia C, Van Steen K, Hahn S, Buchholz M, Costello E, Esposito I, Hoheisel JD, Lange B, Lopez-Bigas N, Michalski CW, Real FX, Brand A, Malats N, on behalf of the COST Action BM1204 participants. *E Public Health Genomics* 2013;16(6):305-12.
- European cancer mortality predictions for the year 2014. M Malvezzi, PQ Bertuccio, F Levi, C La Vecchia, E Negri. *Ann Oncol.* 2014;25(8):1650-6.
- Discovering main genetic interactions with LABNet LAsso-based network inference. Gadaleta F, Van Steen K. *PLoS One.* 2014;9(11):e110451.
- Pathology of pancreatic ductal adenocarcinoma: facts, challenges and future developments. Esposito I, Konukiewitz B, Schlitter AM, Klöppel G. *World J Gastroenterol.* 2014;20(38):13833-41
- European cancer mortality predictions for the year 2015: does lung cancer have the highest death rate in EU women? Malvezzi M, Bertuccio P, Rosso T, Rota M, Levi F, La Vecchia C, Negri E. *Ann Oncol.* 2015;26(4):779-86
- Biomarkers for early diagnosis of pancreatic cancer. Jenkinson C, Earl J, Ghaneh P, Halloran C, Carrato A, Greenhalf W, Neoptolemos J, Costello E. *Expert Rev Gastroenterol Hepatol.* 2015;9(3):305-15.
- Identification of novel aldose reductase inhibitors based on carboxymethylated mercaptotriazinoindole scaffold. Stefek M, Soltsova Prnova M, Majekova M, Rechlin C, Heine A, Klebe G. *J Med Chem.* 2015;58:2649-57. ISSN 0022-2623.
- Inhibition of the sarco/endoplasmic reticulum Ca²⁺-ATPase (SERCA1) by rutin derivatives. Viskupicova J, Majekova M, Horakova L. *J. Muscle Res Cell Motil.* 2015;36:183-94. ISSN 0142-4319.
- [PanGen-Fam: Spanish registry of hereditary pancreatic cancer](#). Mocci E, Guillen-Ponce C, Earl J, Marquez M, Solera J, Salazar-López MT, Calcedo-Arnáiz C, Vázquez-Sequeiros E, Montans J, Muñoz-Beltrán M, Vicente-Bártulos A, González-Gordaliza C, Sanjuanbenito A, Guerrero C, Mendía E, Lisa E, Lobo E, Martínez JC, Real FX, Malats N, Carrato A. *Eur J Cancer.* 2015;51(14):1911-7.
- [Circulating tumor cells \(Ctc\) and kras mutant circulating free Dna \(cfdna\) detection in peripheral blood as biomarkers in patients diagnosed with exocrine pancreatic cancer](#). Earl J, Garcia-Nieto S, Martinez-Avila JC, Montans J, Sanjuanbenito A, Rodríguez-Garrote M, Lisa E, Mendía E, Lobo E, Malats N, Carrato A, Guillen-Ponce C. *BMC Cancer.* 2015;15:797.
- Pathology, genetics and precursors of human and experimental pancreatic neoplasms: An update. Esposito I, Segler A, Steiger K, Klöppel G. *Pancreatology.* 2015;pii: S1424-3903(15)00632-8
- [Integration Analysis of Three Omics Data Using Penalized Regression Methods: An Application to Bladder Cancer](#). Pineda S, Real FX, Kogevinas M, Carrato A, Chanock SJ, Malats N, Van Steen K.

PLoS Genet. 2015 Dec 8;11(12):e1005689.

- [Reduced risk of pancreatic cancer associated with asthma and nasal allergies](#). Gomez-Rubio P, Zock JP, Rava M, Marquez M, Sharp L, Hidalgo M, Carrato A, Ilzarbe L, Michalski C, Molero X, Farré A, Perea J, Greenhalf W, O'Rorke M, Tardón A, Gress T, Barberà V, Crnogorac-Jurcevic T, Domínguez-Muñoz E, Muñoz-Bellví L, Alvarez-Urturi C, Balcells J, Barneo L, Costello E, Guillén-Ponce C, Kleeff J, Kong B, Lawlor R, Löhr M, Mora J, Murray L, O'Driscoll D, Peláez P, Poves I, Scarpa A, Real FX, Malats N; PanGenEU Study Investigators. Gut. 2015 Dec 1.
- Gut, 2017 Feb;66(2):314-322
- European cancer mortality predictions for the year 2016 with focus on leukaemias. Malvezzi M, Carioli G, Bertuccio P, Rosso T, Boffetta P, Levi F, La Vecchia C, Negri E. [Ann Oncol](#). 2016 Apr;27(4):725-31.
 - [Polycomb repressor complex 1 promotes gene silencing through H2AK119 mono-ubiquitination in acinar-to-ductal metaplasia and pancreatic cancer cells](#). Benitz S, Regel I, Reinhard T, Popp A, Schäffer I, Raulefs S, Kong B, Esposito I, Michalski CW, Kleeff J. [Oncotarget](#). 2016 Mar 8;7(10):11424-33.
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