GRANT AGREEMENT

NUMBER — 765141 — HealthPros

This Agreement (‘the Agreement’) is between the following parties:

on the one part,

the Research Executive Agency (REA) (‘the Agency’), under the powers delegated by the European Commission (‘the Commission’),

represented for the purposes of signature of this Agreement by Head of Unit, Research Executive Agency, Excellent Science Department, Marie Sklodowska-Curie Innovative Training Networks, Klaus-Guenther BARTHEL,

and

on the other part,

1. ‘the coordinator’:

Academisch Medisch Centrum bij de Universiteit van Amsterdam (AMC), established in MEIBERGDREEF 9, AMSTERDAM 1105AZ, Netherlands, represented for the purposes of signing the Agreement by Dean & Chair, johannes ROMIJN

and the following other beneficiaries, if they sign their ‘Accession Form’ (see Annex 3 and Article 56):

2. REGION NORDJYLLAND (NORTH DENMARK REGION) (AUH), established in Niels Bohrs Vej 30, AALBORG 9220, Denmark,

3. OPTIMEDIS AG (OPTIMEDIS), established in BURCHARDSTRASSE 17, HAMBURG 20095, Germany, VAT number: DE227566961,

4. UNIVERSITY OF SURREY (SURREY), established in Stag Hill, GUILDFORD GU2 7XH, United Kingdom, VAT number: GB688953065,

5. SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO SANT'ANNA (SSSA), established in PIAZZA MARTIRI DELLA LIBERTA 33, PISA 56127, Italy, VAT number: IT01118840501,

6. BUDAPESTI CORVINUS EGYETEM (BCE), established in FOVAM TER 8, BUDAPEST 1093, Hungary, VAT number: HU15329743,

Unless otherwise specified, references to ‘beneficiary’ or ‘beneficiaries’ include the coordinator.
The parties referred to above have agreed to enter into the Agreement under the terms and conditions below.

By signing the Agreement or the Accession Form, the beneficiaries accept the grant and agree to implement it under their own responsibility and in accordance with the Agreement, with all the obligations and conditions it sets out.

The Agreement is composed of:

Terms and Conditions

Annex 1  Description of the action
Annex 2  Estimated budget for the action
  2a  Additional information on the estimated budget
Annex 3  Accession Forms
Annex 4  Model for the financial statements
Annex 5  Not applicable
Annex 6  Not applicable
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CHAPTER 1 GENERAL

ARTICLE 1 — SUBJECT OF THE AGREEMENT

This Agreement sets out the rights and obligations and the terms and conditions applicable to the grant awarded to the beneficiaries for implementing the action set out in Chapter 2.

CHAPTER 2 ACTION

ARTICLE 2 — ACTION TO BE IMPLEMENTED

The grant is awarded for the action entitled ‘Healthcare Performance Intelligence Professionals — HealthPros’ (‘action’), as described in Annex 1.

ARTICLE 3 — DURATION AND STARTING DATE OF THE ACTION

The duration of the action will be 48 months as of 1 January 2018 (‘starting date of the action’).

ARTICLE 4 — ESTIMATED BUDGET AND BUDGET TRANSFERS

4.1 Estimated budget

The ‘estimated budget’ for the action is set out in Annex 2.

It contains the estimated eligible costs and the forms of costs, broken down by beneficiary and budget category (see Articles 5, 6).

4.2 Budget transfers

The estimated budget breakdown indicated in Annex 2 may be adjusted by transfers of amounts between beneficiaries.

This does not require an amendment according to Article 55, if the action is implemented as described in Annex 1.

However, no more than 40% of the maximum grant amount (see Article 5.1) may be allocated to beneficiaries located in the same country or to any one international European interest organisation or international organisation.

CHAPTER 3 GRANT

ARTICLE 5 — GRANT AMOUNT, FORM OF GRANT, REIMBURSEMENT RATES AND FORMS OF COSTS

5.1 Maximum grant amount

The ‘maximum grant amount’ is EUR 3,355,245.00 (three million three hundred and fifty five thousand two hundred and forty five EURO).
5.2 Form of grant, reimbursement rate and form of costs

The grant reimburses 100% of the action’s eligible costs (see Article 6) (‘reimbursement of eligible costs grant’) (see Annex 2).

The estimated eligible costs of the action are EUR 3,355,245.00 (three million three hundred and fifty five thousand two hundred and forty five EURO).

Eligible costs (see Article 6) must be declared under the following form (‘form of costs’):

(a) for costs for recruited researchers (living, mobility and family allowances): on the basis of the amount(s) per unit set out in Annex 2 (‘unit costs’) and

(b) for institutional costs (research, training and networking costs and management and indirect costs): on the basis of the amount per unit set out in Annex 2 (unit costs).

5.3 Final grant amount — Calculation

The ‘final grant amount’ depends on the actual extent to which the action is implemented in accordance with the Agreement’s terms and conditions.

This amount is calculated by the Agency — when the payment of the balance is made (see Article 21.4) — in the following steps:

Step 1 – Application of the reimbursement rate to the eligible costs

Step 2 – Limit to the maximum grant amount

Step 3 – Reduction due to substantial errors, irregularities or fraud or serious breach of obligations

5.3.1 Step 1 — Application of the reimbursement rates to the eligible costs

The reimbursement rate (see Article 5.2) is applied to eligible costs (unit costs; see Article 6) declared by the beneficiaries and approved by the Agency (see Article 21).

5.3.2 Step 2 — Limit to the maximum grant amount

If the amount obtained following Step 1 is higher than the maximum grant amount set out in Article 5.1, it will be limited to the latter.

5.3.3 Step 3 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations — Reduced grant amount — Calculation

If the grant is reduced (see Article 43), the Agency will calculate the reduced grant amount by deducting the amount of the reduction (calculated in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations, in accordance with Article 43.2) from the maximum grant amount set out in Article 5.1.

The final grant amount will be the lower of the following two:

- the amount obtained following Steps 1 and 2
- the reduced grant amount following Step 3.
5.4 Revised final grant amount — Calculation

If — after the payment of the balance (in particular, after checks, reviews, audits or investigations; see Article 22) — the Agency rejects costs (see Article 42) or reduces the grant (see Article 43), it will calculate the ‘revised final grant amount’ for the beneficiary concerned by the findings.

This amount is calculated by the Agency on the basis of the findings, as follows:

- in case of rejection of costs: by applying the reimbursement rate to the revised eligible costs approved by the Agency for the beneficiary concerned;

- in case of reduction of the grant: by calculating the concerned beneficiary’s share in the grant amount reduced in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations (see Article 43.2).

In case of rejection of costs and reduction of the grant, the revised final grant amount for the beneficiary concerned will be the lower of the two amounts above.

ARTICLE 6 — ELIGIBLE AND INELIGIBLE COSTS

6.1 General conditions for costs to be eligible

Unit costs are eligible (‘eligible costs’) if:

(a) they are calculated as follows:

\[ \text{amounts per unit set out in Annex 2} \times \text{the number of actual units}. \]

(b) the number of actual units complies with the following:

- the units must be actually used or produced in the period set out in Article 3;
- the units must be necessary for implementing the action or produced by it, and
- the number of units must be identifiable and verifiable, in particular supported by records and documentation (see Article 18).

6.2 Specific conditions for costs to be eligible

Costs are eligible, if they comply with the general conditions (see above) and the specific conditions set out below for each of the following two budget categories:

A. Costs for recruited researchers (A.1 Living allowance, A.2 Mobility allowance and A.3 Family allowance) are eligible, if:

(a) the number of units declared:

(1) corresponds to the actual number of months spent by the recruited researchers on the research training activities and
(ii) does not exceed 36 months (per researcher);

(b) the recruited researchers comply with the following conditions:

(i) be recruited by the beneficiary under an employment contract (or other direct contract with equivalent benefits, including social security coverage) or — if not otherwise possible under national law — under a fixed amount fellowship agreement with minimum social security coverage;

(ii) be employed for at least 3 months;

(iii) be employed full-time, unless the Agency has approved a part-time employment for personal or family reasons;

(iv) be working exclusively for the action;

(v) not have resided in the country of the recruiting beneficiary for more than 12 months in the 3 years immediately before the recruitment date (and not have carried out their main activity (work, studies, etc.) in that country) — unless as part of a procedure for obtaining refugee status under the Geneva Convention¹.

For beneficiaries that are international European interest organisations or international organisations: not have spent with the beneficiary more than 12 months in the 3 years immediately before the recruitment date.

(vi) be — at the date of recruitment — an ‘early stage researcher’ (i.e. in the first four years of his/her research career and not have a doctoral degree);

(c) the costs have been fully incurred for the benefit of the recruited researchers.

This latter condition is met if:

\[
\{ \{ \text{total remuneration costs} \text{ (salaries, social security contributions, taxes and other costs included in the remuneration under the employment contract or other direct contract) or total fixed-amount fellowship costs for the researcher during the action} \\
\text{plus} \\
\text{total mobility costs} \text{ (household, relocation and travel expenses and, if they must be paid under national law, taxes, duties and social security contributions) for the researcher during the action} \} \\
\text{plus} \\
\text{total family costs for the researcher during the action} \} \\
\text{divided by} \\
\text{the number of actual units} \}.
\]

is equal to or higher than the following amount:

\[
\{ \{ \text{amount per unit cost set out in Annex 2 as living allowance} \}
\]

The family allowance is due if the researcher has a family at the time of recruitment. ‘Family’ means persons linked to the researcher by marriage (or a relationship with equivalent status to a marriage recognised by the legislation of the country where this relationship was formalised) or dependent children who are actually being maintained by the researcher.

B. Institutional costs (B.1 Research, training and networking costs and B.2 Management and indirect costs) are eligible if the costs for the recruited researchers (living allowance, mobility allowance, family allowance; see above) are eligible.

6.3 Ineligible costs

‘Ineligible costs’ are:

(a) costs that do not comply with the conditions set out above (in Article 6.1), and in particular costs incurred during suspension of the action implementation (see Article 49);

(b) costs declared under another EU or Euratom grant (including grants awarded by a Member State and financed by the EU or Euratom budget and grants awarded by bodies other than the Agency for the purpose of implementing the EU or Euratom budget), in particular, indirect costs if the beneficiary is already receiving an operating grant financed by the EU or Euratom budget in the same period.

6.4 Consequences of declaration of ineligible costs

Declared costs that are ineligible will be rejected (see Article 42).

This may also lead to any of the other measures described in Chapter 6.

CHAPTER 4 RIGHTS AND OBLIGATIONS OF THE PARTIES

SECTION 1 RIGHTS AND OBLIGATIONS RELATED TO IMPLEMENTING THE ACTION

ARTICLE 7 — GENERAL OBLIGATION TO PROPERLY IMPLEMENT THE ACTION

7.1 General obligation to properly implement the action

The beneficiaries must implement the action as described in Annex 1 and in compliance with the provisions of the Agreement and all legal obligations under applicable EU, international and national law.

7.2 Consequences of non-compliance
If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

**ARTICLE 8 — RESOURCES TO IMPLEMENT THE ACTION — THIRD PARTIES INVOLVED IN THE ACTION**

The beneficiaries must have the appropriate resources to implement the action.

If it is necessary to implement the action, the beneficiaries may:

- call upon entities with a capital or legal link to the beneficiaries\(^2\), to implement certain action tasks described in Annex 1 (i.e. hosting and training of researchers);
- call upon partner organisations to implement certain action tasks described in Annex 1 (i.e. hosting and training researchers during secondments).

In this case, the beneficiaries retain sole responsibility towards the Agency for implementing the action.

**ARTICLE 9 — IMPLEMENTATION OF ACTION TASKS BY BENEFICIARIES NOT RECEIVING EU FUNDING**

Not applicable

**ARTICLE 10 — PURCHASE OF GOODS, WORKS OR SERVICES**

Not applicable

**ARTICLE 11 — USE OF IN-KIND CONTRIBUTIONS PROVIDED BY THIRD PARTIES AGAINST PAYMENT**

Not applicable

**ARTICLE 12 — USE OF IN-KIND CONTRIBUTIONS PROVIDED BY THIRD PARTIES FREE OF CHARGE**

Not applicable

**ARTICLE 13 — IMPLEMENTATION OF ACTION TASKS BY SUBCONTRACTORS**

Not applicable

**ARTICLE 14 — IMPLEMENTATION OF ACTION TASKS BY LINKED THIRD PARTIES**

Not applicable

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\(^2\) *Entities with a capital or legal link* are entities that have a link with the beneficiary, in particular, a legal or capital link, which is neither limited to the action nor established for the sole purpose of its implementation.
ARTICLE 15 — FINANCIAL SUPPORT TO THIRD PARTIES

Not applicable

ARTICLE 16 — PROVISION OF TRANS-NATIONAL OR VIRTUAL ACCESS TO RESEARCH INFRASTRUCTURE

Not applicable

SECTION 2  RIGHTS AND OBLIGATIONS RELATED TO THE GRANT ADMINISTRATION

ARTICLE 17 — GENERAL OBLIGATION TO INFORM

17.1 General obligation to provide information upon request

The beneficiaries must provide — during implementation of the action or afterwards and in accordance with Article 41.2 — any information requested in order to verify eligibility of the costs, proper implementation of the action and compliance with any other obligation under the Agreement.

17.2 Obligation to keep information up to date and to inform about events and circumstances likely to affect the Agreement

Each beneficiary must keep information stored in the Participant Portal Beneficiary Register (via the electronic exchange system; see Article 52) up to date, in particular, its name, address, legal representatives, legal form and organisation type.

Each beneficiary must immediately inform the coordinator — which must immediately inform the Agency and the other beneficiaries — of any of the following:

(a) events which are likely to affect significantly or delay the implementation of the action or the EU's financial interests, in particular:

   (i) changes in its legal, financial, technical, organisational or ownership situation (or those of an entity with a capital or legal link);

   (ii) changes in the name, address, legal form or organisation type of an entity with a capital or legal link;

(b) circumstances affecting:

   (i) the decision to award the grant or

   (ii) compliance with requirements under the Agreement.

17.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.
ARTICLE 18 — KEEPING RECORDS — SUPPORTING DOCUMENTATION

18.1 Obligation to keep records and other supporting documentation

The beneficiaries must — for a period of five years after the payment of the balance — keep records and other supporting documentation in order to prove the proper implementation of the action and the costs they declare as eligible.

They must make them available upon request (see Article 17) or in the context of checks, reviews, audits or investigations (see Article 22).

If there are on-going checks, reviews, audits, investigations, litigation or other pursuits of claims under the Agreement (including the extension of findings; see Articles 22), the beneficiaries must keep the records and other supporting documentation until the end of these procedures.

The beneficiaries must keep the original documents. Digital and digitalised documents are considered originals if they are authorised by the applicable national law. The Agency may accept non-original documents if it considers that they offer a comparable level of assurance.

18.1.1 Records and other supporting documentation on the scientific and technical implementation

The beneficiaries must keep records and other supporting documentation on scientific and technical implementation of the action in line with the accepted standards in the respective field.

18.1.2 Records and other documentation to support the costs declared

The beneficiaries must keep adequate records and other supporting documentation to prove the number of units declared and that the costs for recruited researchers (living allowance, mobility allowance, family allowance) have been fully incurred for the benefit of the researchers.

18.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, costs insufficiently substantiated will be ineligible (see Article 6) and will be rejected (see Article 42), and the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 19 — SUBMISSION OF DELIVERABLES

19.1 Obligation to submit deliverables

The coordinator must:

- submit a ‘progress report’ within 30 days after one year from the starting date of the action;
- organise a ‘mid-term review meeting’ between the beneficiaries, entities with a capital or legal link, partner organisations and the Agency before the deadline for the submission of the report for RP 1 (reporting period 1);
- establish a supervisory board of the network;
submit any other deliverables identified in Annex 1, in accordance with the timing and conditions set out in it.

The beneficiaries must:

- submit a researcher declaration’ within 20 days after the recruitment of each researcher.

19.2 Consequences of non-compliance

If a beneficiary or the coordinator breaches any of its obligations under this Article, the Agency may apply any of the measures provided for in Chapter 6.

ARTICLE 20 — REPORTING — PAYMENT REQUESTS

20.1 Obligation to submit reports

The coordinator must submit to the Agency (see Article 52) the technical and financial reports set out in this Article. These reports include the requests for payments and must be drawn up using the forms and templates provided in the electronic exchange system (see Article 52).

20.2 Reporting periods

The action is divided into the following ‘reporting periods’:

- RP1: from month 1 to month 24
- RP2: from month 25 to month 48

20.3 Periodic reports — Requests for interim payments

The coordinator must submit a periodic report within 60 days following the end of each reporting period.

The periodic report must include the following:

(a) a periodic technical report’ containing:

(i) an explanation of the work carried out by the beneficiaries;

(ii) an overview of the progress towards the objectives of the action, including milestones and deliverables identified in Annex 1.

This report must include explanations justifying the differences between work expected to be carried out in accordance with Annex 1 and that actually carried out.

The report must detail the exploitation and dissemination of the results and — if required in Annex 1 — an updated plan for the exploitation and dissemination of the results’.

The report must indicate the communication activities;

(iii) a summary for publication by the Agency;

(iv) the answers to the ‘questionnaire’, covering issues related to the action implementation
and the economic and societal impact, notably in the context of the Horizon 2020 key performance indicators and the Horizon 2020 monitoring requirements;

(b) a ‘**periodic financial report**’ containing:

(i) an ‘**individual financial statement**’ (see Annex 4) from each beneficiary, for the reporting period concerned.

The individual financial statement must detail the eligible costs (see Article 6) for each budget category (see Annex 2).

The beneficiaries must declare all eligible costs even if they exceed the amounts indicated in the estimated budget (see Annex 2). Amounts which are not declared in the individual financial statement will not be taken into account by the Agency.

If an individual financial statement is not submitted for a reporting period, it may be included in the periodic financial report for the next reporting period.

Each beneficiary must **certify** that:

- the information provided is full, reliable and true;
- the costs declared are eligible (see Article 6);
- the costs can be substantiated by adequate records and supporting documentation (see Article 18) that will be produced upon request (see Article 17) or in the context of checks, reviews, audits and investigations (see Article 22)

(ii) not applicable;

(iii) not applicable;

(iv) a ‘**periodic summary financial statement**’, created automatically by the electronic exchange system, consolidating the individual financial statements for the reporting period concerned and including — except for the last reporting period — the **request for interim payment**.

20.4 Final report — Request for payment of the balance

In addition to the periodic report for the last reporting period, the coordinator must submit the final report within 60 days following the end of the last reporting period.

The final report must include the following:

(a) a ‘**final technical report**’ with a summary for publication containing:

(i) an overview of the results and their exploitation and dissemination;

(ii) the conclusions on the action, and

(iii) the socio-economic impact of the action;

(b) a ‘**final financial report**’ containing a ‘**final summary financial statement**’, created
automatically by the electronic exchange system, consolidating the individual financial statements for all reporting periods and including the request for payment of the balance.

20.5 Information on cumulative expenditure incurred

Not applicable

20.6 Currency for financial statements and conversion into euro

Financial statements must be drafted in euro.

20.7 Language of reports

All reports (technical and financial reports, including financial statements) must be submitted in the language of the Agreement.

20.8 Consequences of non-compliance

If the reports submitted do not comply with this Article, the Agency may suspend the payment deadline (see Article 47) and apply any of the other measures described in Chapter 6.

If the coordinator breaches its obligation to submit the reports and if it fails to comply with this obligation within 30 days following a written reminder, the Agency may terminate the Agreement or apply any of the other measures described in Chapter 6.

ARTICLE 21 — PAYMENTS AND PAYMENT ARRANGEMENTS

21.1 Payments to be made

The following payments will be made to the coordinator:

- one pre-financing payment;

- one or more interim payments, on the basis of the request(s) for interim payment (see Article 20), and

- one payment of the balance, on the basis of the request for payment of the balance (see Article 20).

21.2 Pre-financing payment — Amount — Amount retained for the Guarantee Fund

The aim of the pre-financing is to provide the beneficiaries with a float.

It remains the property of the EU until the payment of the balance.

The amount of the pre-financing payment will be EUR 2,684,196.00 (two million six hundred and eighty four thousand one hundred and ninety six EURO).

The Agency will — except if Article 48 applies — make the pre-financing payment to the coordinator within 30 days from the entry into force of the Agreement (see Article 58) or from 10 days before the starting date of the action (see Article 3).
An amount of EUR **167,762.25** (one hundred and sixty seven thousand seven hundred and sixty two EURO and twenty five eurocents), corresponding to 5% of the maximum grant amount (see Article 5.1), is retained by the Agency from the pre-financing payment and transferred into the ‘**Guarantee Fund**’.

### 21.3 Interim payments — Amount — Calculation

Interim payments reimburse the eligible costs incurred for the implementation of the action during the corresponding reporting periods.

The Agency will pay to the coordinator the amount due as interim payment within 90 days from receiving the periodic report (see Article 20.3), except if Articles 47 or 48 apply.

Payment is subject to the approval of the periodic report. Its approval does not imply recognition of the compliance, authenticity, completeness or correctness of its content.

The **amount due as interim payment** is calculated by the Agency in the following steps:

1. **Step 1 — Application of the reimbursement rates**
   
   The reimbursement rate(s) (see Article 5.2) are applied to the eligible costs (actual costs, unit costs and flat-rate costs; see Article 6) declared by the beneficiaries (see Article 20) and approved by the Agency (see above) for the concerned reporting period.

2. **Step 2 — Limit to 90% of the maximum grant amount**

   The total amount of pre-financing and interim payments must not exceed 90% of the maximum grant amount set out in Article 5.1. The maximum amount for the interim payment will be calculated as follows:

   \[
   \text{90\% of the maximum grant amount (see Article 5.1) - } \{\text{pre-financing and previous interim payments}\}
   \]

### 21.4 Payment of the balance — Amount — Calculation — Release of the amount retained for the Guarantee Fund

The payment of the balance reimburses the remaining part of the eligible costs incurred by the beneficiaries for the implementation of the action.

If the total amount of earlier payments is greater than the final grant amount (see Article 5.3), the payment of the balance takes the form of a recovery (see Article 44).

If the total amount of earlier payments is lower than the final grant amount, the Agency will pay the balance within 90 days from receiving the final report (see Article 20.4), except if Articles 47 or 48 apply.
Payment is subject to the approval of the final report. Its approval does not imply recognition of the compliance, authenticity, completeness or correctness of its content.

The amount due as the balance is calculated by the Agency by deducting the total amount of pre-financing and interim payments (if any) already made, from the final grant amount determined in accordance with Article 5.3:

\[
\text{final grant amount (see Article 5.3)} \quad \text{minus} \quad \{\text{pre-financing and interim payments (if any) made}\}.
\]

At the payment of the balance, the amount retained for the Guarantee Fund (see above) will be released and:

- if the balance is positive: the amount released will be paid in full to the coordinator together with the amount due as the balance;
- if the balance is negative (payment of the balance taking the form of recovery): it will be deducted from the amount released (see Article 44.1.2). If the resulting amount:
  - is positive, it will be paid to the coordinator
  - is negative, it will be recovered.

The amount to be paid may however be offset — without the beneficiaries’ consent — against any other amount owed by a beneficiary to the Agency, the Commission or another executive agency (under the EU or Euratom budget), up to the maximum EU contribution indicated, for that beneficiary, in the estimated budget (see Annex 2).

21.5 Notification of amounts due

When making payments, the Agency will formally notify to the coordinator the amount due, specifying whether it concerns an interim payment or the payment of the balance.

For the payment of the balance, the notification will also specify the final grant amount.

In the case of reduction of the grant or recovery of undue amounts, the notification will be preceded by the contradictory procedure set out in Articles 43 and 44.

21.6 Currency for payments

The Agency will make all payments in euro.

21.7 Payments to the coordinator — Distribution to the beneficiaries

Payments will be made to the coordinator.

Payments to the coordinator will discharge the Agency from its payment obligation.

The coordinator must distribute the payments between the beneficiaries without unjustified delay.

Pre-financing may however be distributed only:
(a) if the minimum number of beneficiaries set out in the call for proposals has acceded to the Agreement (see Article 56) and

(b) to beneficiaries that have acceded to the Agreement (see Article 56).

21.8 Bank account for payments

All payments will be made to the following bank account:

Name of bank: ING BANK N.V.
Full name of the account holder: AMC MEDICAL RESEARCH BV
Full account number (including bank codes): ()
IBAN code: NL25INGB0650673824

21.9 Costs of payment transfers

The cost of the payment transfers is borne as follows:

- the Agency bears the cost of transfers charged by its bank;
- the beneficiary bears the cost of transfers charged by its bank;
- the party causing a repetition of a transfer bears all costs of the repeated transfer.

21.10 Date of payment

Payments by the Agency are considered to have been carried out on the date when they are debited to its account.

21.11 Consequences of non-compliance

21.11.1 If the Agency does not pay within the payment deadlines (see above), the beneficiaries are entitled to late-payment interest at the rate applied by the European Central Bank (ECB) for its main refinancing operations in euros (‘reference rate’), plus three and a half points. The reference rate is the rate in force on the first day of the month in which the payment deadline expires, as published in the C series of the Official Journal of the European Union.

If the late-payment interest is lower than or equal to EUR 200, it will be paid to the coordinator only upon request submitted within two months of receiving the late payment.

Late-payment interest is not due if all beneficiaries are EU Member States (including regional and local government authorities or other public bodies acting on behalf of a Member State for the purpose of this Agreement).

Suspension of the payment deadline or payments (see Articles 47 and 48) will not be considered as late payment.

Late-payment interest covers the period running from the day following the due date for payment (see above), up to and including the date of payment.

Late-payment interest is not considered for the purposes of calculating the final grant amount.
21.11.2 If the coordinator breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or the participation of the coordinator may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

**ARTICLE 22 — CHECKS, REVIEWS, AUDITS AND INVESTIGATIONS — EXTENSION OF FINDINGS**

22.1 Checks, reviews and audits by the Agency and the Commission

22.1.1 Right to carry out checks

The Agency or the Commission will — during the implementation of the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing deliverables and reports.

For this purpose the Agency or the Commission may be assisted by external persons or bodies.

The Agency or the Commission may also request additional information in accordance with Article 17. The Agency or the Commission may request beneficiaries to provide such information to it directly.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

22.1.2 Right to carry out reviews

The Agency or the Commission may — during the implementation of the action or afterwards — carry out reviews on the proper implementation of the action (including assessment of deliverables and reports), compliance with the obligations under the Agreement and continued scientific or technological relevance of the action.

Reviews may be started up to two years after the payment of the balance. They will be formally notified to the coordinator or beneficiary concerned and will be considered to have started on the date of the formal notification.

The Agency or the Commission may carry out reviews directly (using its own staff) or indirectly (using external persons or bodies appointed to do so). It will inform the coordinator or beneficiary concerned of the identity of the external persons or bodies. They have the right to object to the appointment on grounds of commercial confidentiality.

The coordinator or beneficiary concerned must provide — within the deadline requested — any information and data in addition to deliverables and reports already submitted (including information on the use of resources). The Agency or the Commission may request beneficiaries to provide such information to it directly.

The coordinator or beneficiary concerned may be requested to participate in meetings, including with external experts.

For on-the-spot reviews, the beneficiaries must allow access to their sites and premises, including to external persons or bodies, and must ensure that information requested is readily available.
Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the review findings, a ‘review report’ will be drawn up.

The Agency or the Commission will formally notify the review report to the coordinator or beneficiary concerned, which has 30 days to formally notify observations (‘contradictory review procedure’).

Reviews (including review reports) are in the language of the Agreement.

22.1.3 Right to carry out audits

The Agency or the Commission may — during the implementation of the action or afterwards — carry out audits on the proper implementation of the action and compliance with the obligations under the Agreement.

Audits may be started up to two years after the payment of the balance. They will be formally notified to the coordinator or beneficiary concerned and will be considered to have started on the date of the formal notification.

The Agency or the Commission may carry out audits directly (using its own staff) or indirectly (using external persons or bodies appointed to do so). It will inform the coordinator or beneficiary concerned of the identity of the external persons or bodies. They have the right to object to the appointment on grounds of commercial confidentiality.

The coordinator or beneficiary concerned must provide — within the deadline requested — any information (including complete accounts, individual salary statements or other personal data) to verify compliance with the Agreement. The Agency or the Commission may request beneficiaries to provide such information to it directly.

For on-the-spot audits, the beneficiaries must allow access to their sites and premises, including to external persons or bodies, and must ensure that information requested is readily available.

Information provided must be accurate, precise and complete and in the format requested, including electronic format.

On the basis of the audit findings, a ‘draft audit report’ will be drawn up.

The Agency or the Commission will formally notify the draft audit report to the coordinator or beneficiary concerned, which has 30 days to formally notify observations (‘contradictory audit procedure’). This period may be extended by the Agency or the Commission in justified cases.

The ‘final audit report’ will take into account observations by the coordinator or beneficiary concerned. The report will be formally notified to it.

Audits (including audit reports) are in the language of the Agreement.

The Agency or the Commission may also access the beneficiaries’ statutory records for the periodical assessment of unit costs or flat-rate amounts.

22.2 Investigations by the European Anti-Fraud Office (OLAF)
Under Regulations No 883/2013\(^3\) and No 2185/96\(^4\) (and in accordance with their provisions and procedures), the European Anti-Fraud Office (OLAF) may — at any moment during implementation of the action or afterwards — carry out investigations, including on-the-spot checks and inspections, to establish whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the EU.

### 22.3 Checks and audits by the European Court of Auditors (ECA)

Under Article 287 of the Treaty on the Functioning of the European Union (TFEU) and Article 161 of the Financial Regulation No 966/2012\(^5\), the European Court of Auditors (ECA) may — at any moment during implementation of the action or afterwards — carry out audits.

The ECA has the right of access for the purpose of checks and audits.

### 22.4 Checks, reviews, audits and investigations for international organisations

Not applicable

### 22.5 Consequences of findings in checks, reviews, audits and investigations — Extension of findings

#### 22.5.1 Findings in this grant

Findings in checks, reviews, audits or investigations carried out in the context of this grant may lead to the rejection of ineligible costs (see Article 42), reduction of the grant (see Article 43), recovery of undue amounts (see Article 44) or to any of the other measures described in Chapter 6.

Rejection of costs or reduction of the grant after the payment of the balance will lead to a revised final grant amount (see Article 5.4).

Findings in checks, reviews, audits or investigations may lead to a request for amendment for the modification of Annex 1 (see Article 55).

Checks, reviews, audits or investigations that find systemic or recurrent errors, irregularities, fraud or breach of obligations may also lead to consequences in other EU or Euratom grants awarded under similar conditions ('extension of findings from this grant to other grants').

Moreover, findings arising from an OLAF investigation may lead to criminal prosecution under national law.

#### 22.5.2 Findings in other grants

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The Agency or the Commission may extend findings from other grants to this grant (‘extension of findings from other grants to this grant’), if:

(a) the beneficiary concerned is found, in other EU or Euratom grants awarded under similar conditions, to have committed systemic or recurrent errors, irregularities, fraud or breach of obligations that have a material impact on this grant and

(b) those findings are formally notified to the beneficiary concerned — together with the list of grants affected by the findings — no later than two years after the payment of the balance of this grant.

The extension of findings may lead to the rejection of costs (see Article 42), reduction of the grant (see Article 43), recovery of undue amounts (see Article 44), suspension of payments (see Article 48), suspension of the action implementation (see Article 49) or termination (see Article 50).

22.5.3 Procedure

The Agency or the Commission will formally notify the beneficiary concerned the systemic or recurrent errors and its intention to extend these audit findings, together with the list of grants affected.

22.5.3.1 If the findings concern **eligibility of costs**: the formal notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings;

(b) the request to submit **revised financial statements** for all grants affected;

(c) the **correction rate for extrapolation** established by the Agency or the Commission on the basis of the systemic or recurrent errors, to calculate the amounts to be rejected if the beneficiary concerned:

   (i) considers that the submission of revised financial statements is not possible or practicable or

   (ii) does not submit revised financial statements.

The beneficiary concerned has 90 days from receiving notification to submit observations, revised financial statements or to propose a duly substantiated **alternative correction method**. This period may be extended by the Agency or the Commission in justified cases.

The Agency or the Commission may then start a rejection procedure in accordance with Article 42, on the basis of:

- the revised financial statements, if approved;

- the proposed alternative correction method, if accepted

or

- the initially notified correction rate for extrapolation, if it does not receive any observations or revised financial statements, does not accept the observations or the proposed alternative correction method or does not approve the revised financial statements.
22.5.3.2 If the findings concern **substantial errors, irregularities or fraud** or **serious breach of obligations**: the formal notification will include:

(a) an invitation to submit observations on the list of grants affected by the findings and

(b) the flat-rate the Agency or the Commission intends to apply according to the principle of proportionality.

The beneficiary concerned has 90 days from receiving notification to submit observations or to propose a duly substantiated alternative flat-rate.

The Agency or the Commission may then start a reduction procedure in accordance with Article 43, on the basis of:

- the proposed alternative flat-rate, if accepted

or

- the initially notified flat-rate, if it does not receive any observations or does not accept the observations or the proposed alternative flat-rate.

If the Agency or the Commission accepts the alternative flat-rate proposed by the beneficiary concerned, it will formally notify the application of the accepted alternative flat-rate.

**22.6 Consequences of non-compliance**

If a beneficiary breaches any of its obligations under this Article, any insufficiently substantiated costs will be ineligible (see Article 6) and will be rejected (see Article 42).

Such breaches may also lead to any of the other measures described in Chapter 6.

**ARTICLE 23 — EVALUATION OF THE IMPACT OF THE ACTION**

**23.1 Right to evaluate the impact of the action**

The Agency or the Commission may carry out interim and final evaluations of the impact of the action measured against the objective of the EU programme.

Evaluations may be started during implementation of the action and up to five years after the payment of the balance. The evaluation is considered to start on the date of the formal notification to the coordinator or beneficiaries.

The Agency or the Commission may make these evaluations directly (using its own staff) or indirectly (using external bodies or persons it has authorised to do so).

The coordinator or beneficiaries must provide any information relevant to evaluate the impact of the action, including information in electronic format.

**23.2 Consequences of non-compliance**

If a beneficiary breaches any of its obligations under this Article, the Agency may apply the measures described in Chapter 6.
SECTION 3   RIGHTS AND OBLIGATIONS RELATED TO BACKGROUND AND RESULTS

SUBSECTION 1   GENERAL

ARTICLE 23a — MANAGEMENT OF INTELLECTUAL PROPERTY

23a.1 Obligation to take measures to implement the Commission Recommendation on the management of intellectual property in knowledge transfer activities

Beneficiaries that are universities or other public research organisations must take measures to implement the principles set out in Points 1 and 2 of the Code of Practice annexed to the Commission Recommendation on the management of intellectual property in knowledge transfer activities\(^6\).

This does not change the obligations set out in Subsections 2 and 3 of this Section.

The beneficiaries must ensure that the researchers, entities with a capital or legal link and partner organisations are aware of them.

23a.2 Consequences of non-compliance

If a beneficiary breaches its obligations under this Article, the Agency may apply any of the measures described in Chapter 6.

SUBSECTION 2   RIGHTS AND OBLIGATIONS RELATED TO BACKGROUND

ARTICLE 24 — AGREEMENT ON BACKGROUND

24.1 Agreement on background

The beneficiaries must identify and agree (in writing) on the background for the action (‘agreement on background’).

‘Background’ means any data, know-how or information — whatever its form or nature (tangible or intangible), including any rights such as intellectual property rights — that:

(a) is held by the beneficiaries before they acceded to the Agreement, and

(b) is needed to implement the action or exploit the results.

24.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

\(^6\) Commission Recommendation C (2008) 1329 of 10.4.2008 on the management of intellectual property in knowledge transfer activities and the Code of Practice for universities and other public research institutions attached to this recommendation.
ARTICLE 25 — ACCESS RIGHTS TO BACKGROUND

25.1 Exercise of access rights — Waiving of access rights — No sub-licensing

To exercise access rights, this must first be requested in writing (‘request for access’).

‘Access rights’ means rights to use results or background under the terms and conditions laid down in this Agreement.

Waivers of access rights are not valid unless in writing.

Unless agreed otherwise, access rights do not include the right to sub-license.

25.2 Access rights for other beneficiaries, for implementing their own tasks under the action

The beneficiaries must give each other access — on a royalty-free basis — to background needed to implement their own tasks under the action, unless the beneficiary that holds the background has — before acceding to the Agreement —:

(a) informed the other beneficiaries that access to its background is subject to legal restrictions or limits, including those imposed by the rights of third parties (including personnel), or

(b) agreed with the other beneficiaries that access would not be on a royalty-free basis.

25.3 Access rights for other beneficiaries, for exploiting their own results

The beneficiaries must give each other access — under fair and reasonable conditions — to background needed for exploiting their own results, unless the beneficiary that holds the background has — before acceding to the Agreement — informed the other beneficiaries that access to its background is subject to legal restrictions or limits, including those imposed by the rights of third parties (including personnel).

‘Fair and reasonable conditions’ means appropriate conditions, including possible financial terms or royalty-free conditions, taking into account the specific circumstances of the request for access, for example the actual or potential value of the results or background to which access is requested and/or the scope, duration or other characteristics of the exploitation envisaged.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

25.4 Access rights for affiliated entities

Unless otherwise agreed in the consortium agreement, access to background must also be given — under fair and reasonable conditions (see above; Article 25.3) and unless it is subject to legal restrictions or limits, including those imposed by the rights of third parties (including personnel) — to affiliated entities established in an EU Member State or ‘associated country’, if this is needed to exploit the results generated by the beneficiaries to which they are affiliated.

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Unless agreed otherwise (see above; Article 25.1), the affiliated entity concerned must make the request directly to the beneficiary that holds the background.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

25.5 Access rights for researchers

The beneficiaries must — on a royalty-free basis — give access to the recruited researchers to background necessary for their research training activities under the action.

25.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

SUBSECTION 3 RIGHTS AND OBLIGATIONS RELATED TO RESULTS

ARTICLE 26 — OWNERSHIP OF RESULTS

26.1 Ownership by the beneficiary that generates the results

Results are owned by the beneficiary that generates them.

‘Results’ means any (tangible or intangible) output of the action such as data, knowledge or information — whatever its form or nature, whether it can be protected or not — that is generated in the action, as well as any rights attached to it, including intellectual property rights.

26.2 Joint ownership by several beneficiaries

Two or more beneficiaries own results jointly if:

(a) they have jointly generated them and

- under the direct or indirect control of a participant, or
- under the same direct or indirect control as the participant, or
- directly or indirectly controlling a participant.

‘Control’ may take any of the following forms:

(a) the direct or indirect holding of more than 50% of the nominal value of the issued share capital in the legal entity concerned, or of a majority of the voting rights of the shareholders or associates of that entity;
(b) the direct or indirect holding, in fact or in law, of decision-making powers in the legal entity concerned.

However the following relationships between legal entities shall not in themselves be deemed to constitute controlling relationships:

(a) the same public investment corporation, institutional investor or venture-capital company has a direct or indirect holding of more than 50% of the nominal value of the issued share capital or a majority of voting rights of the shareholders or associates;
(b) the legal entities concerned are owned or supervised by the same public body.

8 For the definition, see Article 2.1(3) Rules for Participation Regulation No 1290/2013: ‘associated country’ means a non EU-country (third country) which is party to an international agreement with the Union, as identified in Article 7 of the H2020 Framework Programme Regulation No 1291/2013. Article 7 sets out the conditions for association of non-EU countries to Horizon 2020.
(b) it is not possible to:

(i) establish the respective contribution of each beneficiary, or

(ii) separate them for the purpose of applying for, obtaining or maintaining their protection (see Article 27).

The joint owners must agree (in writing) on the allocation and terms of exercise of their joint ownership (‘joint ownership agreement’), to ensure compliance with their obligations under this Agreement.

Unless otherwise agreed in the joint ownership agreement, each joint owner may grant non-exclusive licences to third parties to exploit jointly-owned results (without any right to sub-license), if the other joint owners are given:

(a) at least 45 days advance notice and

(b) fair and reasonable compensation.

Once the results have been generated, joint owners may agree (in writing) to apply another regime than joint ownership (such as, for instance, transfer to a single owner (see Article 30) with access rights for the others).

26.3 Rights of third parties (including personnel)

If third parties (including personnel) may claim rights to the results, the beneficiary concerned must ensure that it complies with its obligations under the Agreement.

If a third party generates results, the beneficiary concerned must obtain all necessary rights (transfer, licences or other) from the third party, in order to be able to respect its obligations as if those results were generated by the beneficiary itself.

If obtaining the rights is impossible, the beneficiary must refrain from using the third party to generate the results.

26.4 Agency ownership, to protect results

26.4.1 The Agency may — with the consent of the beneficiary concerned — assume ownership of results to protect them, if a beneficiary intends — up to four years after the period set out in Article 3 — to disseminate its results without protecting them, except in any of the following cases:

(a) the lack of protection is because protecting the results is not possible, reasonable or justified (given the circumstances);

(b) the lack of protection is because there is a lack of potential for commercial or industrial exploitation, or

(c) the beneficiary intends to transfer the results to another beneficiary or third party established in an EU Member State or associated country, which will protect them.

Before the results are disseminated and unless any of the cases above under Points (a), (b) or (c) applies, the beneficiary must formally notify the Agency and at the same time inform it of any reasons
for refusing consent. The beneficiary may refuse consent only if it can show that its legitimate interests would suffer significant harm.

If the Agency decides to assume ownership, it will formally notify the beneficiary concerned within 45 days of receiving notification.

No dissemination relating to these results may take place before the end of this period or, if the Agency takes a positive decision, until it has taken the necessary steps to protect the results.

26.4.2 The Agency may — with the consent of the beneficiary concerned — assume ownership of results to protect them, if a beneficiary intends — up to four years after the period set out in Article 3 — to stop protecting them or not to seek an extension of protection, except in any of the following cases:

(a) the protection is stopped because of a lack of potential for commercial or industrial exploitation;

(b) an extension would not be justified given the circumstances.

A beneficiary that intends to stop protecting results or not seek an extension must — unless any of the cases above under Points (a) or (b) applies — formally notify the Agency at least 60 days before the protection lapses or its extension is no longer possible and at the same time inform it of any reasons for refusing consent. The beneficiary may refuse consent only if it can show that its legitimate interests would suffer significant harm.

If the Agency decides to assume ownership, it will formally notify the beneficiary concerned within 45 days of receiving notification.

26.5 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to the any of the other measures described in Chapter 6.

ARTICLE 27 — PROTECTION OF RESULTS — VISIBILITY OF EU FUNDING

27.1 Obligation to protect the results

Each beneficiary must examine the possibility of protecting its results and must adequately protect them — for an appropriate period and with appropriate territorial coverage — if:

(a) the results can reasonably be expected to be commercially or industrially exploited and

(b) protecting them is possible, reasonable and justified (given the circumstances).

When deciding on protection, the beneficiary must consider its own legitimate interests and the legitimate interests (especially commercial) of the other beneficiaries.

27.2 Agency ownership, to protect the results

If a beneficiary intends not to protect its results, to stop protecting them or not seek an extension of protection, the Agency may — under certain conditions (see Article 26.4) — assume ownership to ensure their (continued) protection.
27.3 Information on EU funding

Applications for protection of results (including patent applications) filed by or on behalf of a beneficiary must — unless the Agency requests or agrees otherwise or unless it is impossible — include the following:

“The project leading to this application has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 765141”.

27.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 28 — EXPLOITATION OF RESULTS

28.1 Obligation to exploit the results

Each beneficiary must — up to four years after the period set out in Article 3 — take measures aiming to ensure ‘exploitation’ of its results (either directly or indirectly, in particular through transfer or licensing; see Article 30) by:

(a) using them in further research activities (outside the action);
(b) developing, creating or marketing a product or process;
(c) creating and providing a service, or
(d) using them in standardisation activities.

This does not change the security obligations in Article 37, which still apply.

28.2 Results that could contribute to European or international standards — Information on EU funding

If results are incorporated in a standard, the beneficiary concerned must — unless the Agency requests or agrees otherwise or unless it is impossible — ask the standardisation body to include the following statement in (information related to) the standard:

“Results incorporated in this standard received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 765141”.

28.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced in accordance with Article 43.

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 29 — DISSEMINATION OF RESULTS — OPEN ACCESS — VISIBILITY OF EU FUNDING
29.1 Obligation to disseminate results

Unless it goes against their legitimate interests, each beneficiary must — as soon as possible — ‘disseminate’ its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium).

This does not change the obligation to protect results in Article 27, the confidentiality obligations in Article 36, the security obligations in Article 37 or the obligations to protect personal data in Article 39, all of which still apply.

A beneficiary that intends to disseminate its results must give advance notice to the other beneficiaries of — unless agreed otherwise — at least 45 days, together with sufficient information on the results it will disseminate.

Any other beneficiary may object within — unless agreed otherwise — 30 days of receiving notification, if it can show that its legitimate interests in relation to the results or background would be significantly harmed. In such cases, the dissemination may not take place unless appropriate steps are taken to safeguard these legitimate interests.

If a beneficiary intends not to protect its results, it may — under certain conditions (see Article 26.4.1) — need to formally notify the Agency before dissemination takes place.

29.2 Open access to scientific publications

Each beneficiary must ensure open access (free of charge online access for any user) to all peer-reviewed scientific publications relating to its results.

In particular, it must:

(a) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications;

Moreover, the beneficiary must aim to deposit at the same time the research data needed to validate the results presented in the deposited scientific publications.

(b) ensure open access to the deposited publication — via the repository — at the latest:

(i) on publication, if an electronic version is available for free via the publisher, or

(ii) within six months of publication (twelve months for publications in the social sciences and humanities) in any other case.

(c) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication.

The bibliographic metadata must be in a standard format and must include all of the following:

- the terms “Marie Skłodowska-Curie Actions”;

- the name of the action, acronym and grant number;
- the publication date, and length of embargo period if applicable, and
- a persistent identifier.

29.3 Open access to research data

Not applicable

29.4 Information on EU funding — Obligation and right to use the EU emblem

Unless the Agency requests or agrees otherwise or unless it is impossible, any dissemination of results (in any form, including electronic) must:

(a) display the EU emblem and

(b) include the following text:

“*This project has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 765141*.”

When displayed together with another logo, the EU emblem must have appropriate prominence.

For the purposes of their obligations under this Article, the beneficiaries may use the EU emblem without first obtaining approval from the Agency.

This does not however give them the right to exclusive use.

Moreover, they may not appropriate the EU emblem or any similar trademark or logo, either by registration or by any other means.

29.5 Disclaimer excluding Agency responsibility

Any dissemination of results must indicate that it reflects only the author's view and that the Agency is not responsible for any use that may be made of the information it contains.

29.6 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 30 — TRANSFER AND LICENSING OF RESULTS

30.1 Transfer of ownership

Each beneficiary may transfer ownership of its results.

It must however ensure that its obligations under Articles 26.2, 26.4, 27, 28, 29, 30 and 31 also apply to the new owner and that this owner has the obligation to pass them on in any subsequent transfer.

This does not change the security obligations in Article 37, which still apply.
Unless agreed otherwise (in writing) for specifically-identified third parties or unless impossible under applicable EU and national laws on mergers and acquisitions, a beneficiary that intends to transfer ownership of results must give at least 45 days advance notice (or less if agreed in writing) to the other beneficiaries that still have (or still may request) access rights to the results. This notification must include sufficient information on the new owner to enable any beneficiary concerned to assess the effects on its access rights.

Unless agreed otherwise (in writing) for specifically-identified third parties, any other beneficiary may object within 30 days of receiving notification (or less if agreed in writing), if it can show that the transfer would adversely affect its access rights. In this case, the transfer may not take place until agreement has been reached between the beneficiaries concerned.

30.2 Granting licenses

Each beneficiary may grant licences to its results (or otherwise give the right to exploit them), if:

(a) this does not impede the access rights under Article 31

(b) not applicable.

In addition to Points (a) and (b), exclusive licences for results may be granted only if all the other beneficiaries concerned have waived their access rights (see Article 31.1).

This does not change the dissemination obligations in Article 29 or security obligations in Article 37, which still apply.

30.3 Agency right to object to transfers or licensing

The Agency may — up to four years after the period set out in Article 3 — object to a transfer of ownership or the exclusive licensing of results, if:

(a) it is to a third party established in a non-EU country not associated with Horizon 2020 and

(b) the Agency considers that the transfer or licence is not in line with EU interests regarding competitiveness or is inconsistent with ethical principles or security considerations.

A beneficiary that intends to transfer ownership or grant an exclusive licence must formally notify the Agency before the intended transfer or licensing takes place and:

- identify the specific results concerned;
- describe in detail the new owner or licensee and the planned or potential exploitation of the results, and
- include a reasoned assessment of the likely impact of the transfer or licence on EU competitiveness and its consistency with ethical principles and security considerations.

The Agency may request additional information.

If the Agency decides to object to a transfer or exclusive licence, it must formally notify the beneficiary concerned within 60 days of receiving notification (or any additional information it has requested).

No transfer or licensing may take place in the following cases:
- pending the Agency decision, within the period set out above;
- if the Agency objects;
- until the conditions are complied with, if the Agency objection comes with conditions.

30.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such a breach may also lead to any of the other measures described in Chapter 6.

ARTICLE 31 — ACCESS RIGHTS TO RESULTS

31.1 Exercise of access rights — Waiving of access rights — No sub-licensing

The conditions set out in Article 25.1 apply.

The obligations set out in this Article do not change the security obligations in Article 37, which still apply.

31.2 Access rights for other beneficiaries, for implementing their own tasks under the action

The beneficiaries must give each other access — on a royalty-free basis — to results needed for implementing their own tasks under the action.

31.3 Access rights for other beneficiaries, for exploiting their own results

The beneficiaries must give each other — under fair and reasonable conditions (see Article 25.3) — access to results needed for exploiting their own results.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

31.4 Access rights of affiliated entities

Unless agreed otherwise in the consortium agreement, access to results must also be given — under fair and reasonable conditions (Article 25.3) — to affiliated entities established in an EU Member State or associated country, if this is needed for those entities to exploit the results generated by the beneficiaries to which they are affiliated.

Unless agreed otherwise (see above; Article 31.1), the affiliated entity concerned must make any such request directly to the beneficiary that owns the results.

Requests for access may be made — unless agreed otherwise — up to one year after the period set out in Article 3.

31.5 Access rights for the EU institutions, bodies, offices or agencies and EU Member States

The beneficiaries must give access to their results — on a royalty-free basis — to EU institutions, bodies, offices or agencies, for developing, implementing or monitoring EU policies or programmes.
Such access rights are limited to non-commercial and non-competitive use.

This does not change the right to use any material, document or information received from the beneficiaries for communication and publicising activities (see Article 38.2).

31.6 Access rights for researchers

The beneficiaries must — on a royalty-free basis — give access to the recruited researchers to results necessary for their research training activities under the action.

31.7 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

SECTION 4 OTHER RIGHTS AND OBLIGATIONS

ARTICLE 32 — RECRUITMENT AND WORKING CONDITIONS FOR RECRUITED RESEARCHERS

32.1 Obligations towards recruited researchers

The beneficiaries must respect the following recruitment and working conditions for the researchers recruited under the action:

   (a) take all measures to implement the principles set out in the Commission Recommendation on the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers and ensure that the researchers are aware of them;

   (b) advertise and publish vacancies internationally, including on the web-sites requested by the Agency;

   (c) recruit the researchers, following an open, transparent, impartial and equitable recruitment procedure, on the basis of:

       (i) their scientific skills and the relevance of their research experience;

       (ii) the impact of the proposed training on the researcher's career;

       (iii) a fair gender representation (by promoting genuine equal access opportunities between men and women throughout the recruitment process);

   (d) ensure that no conflict of interest exists in or arises from the recruitment;

   (e) ensure that the researchers enjoy at the place of the implementation at least the same standards and working conditions as those applicable to local researchers holding a similar position;

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(f) ensure that the employment contract, other direct contract or fixed amount-fellowship agreement (see Article 6) specifies:

(i) the starting date and duration of the research training activities under the action;

(ii) the monthly support for the researcher under this Agreement (in euro and, if relevant, in the currency in which the remuneration is paid);

(iii) the obligation of the researcher to work exclusively for the action;

(iv) the obligation of the researcher not to receive for activities carried out in the frame of the action, other incomes than those received from the beneficiary (or other entity mentioned in Annex 1);

(v) the obligation of the researcher to inform the beneficiary as soon as possible of any events or circumstances likely to affect the Agreement (see Article 17);

(vi) the arrangements related to the intellectual property rights between the beneficiary and the researcher — during implementation of the action and afterwards;

(vii) the obligation of the researcher to maintain confidentiality (see Article 36);

(viii) the obligation of the researcher to ensure the visibility of EU funding in communications or publications and in applications for the protection of results (see Articles 27, 28, 29 and 38);

(g) assist the researchers in the administrative procedures related to their recruitment;

(h) inform the researchers about:

- the description, conditions, location and the timetable for the implementation of the research training activities under the action and the name of the supervisor;

- the rights and obligations of the beneficiary toward the researcher under this Agreement;

- the obligation of the researcher to complete and submit — at the end of the training — the evaluation questionnaire and — two years later — follow-up questionnaire provided by the Agency;

(i) ensure that the researchers do not receive, for activities carried out in the frame of the action, other incomes than those received from the beneficiaries (or other entity mentioned in Annex 1);

(j) host the researchers at their premises (or at the premises of an entity with a capital or legal link);

(k) provide training and the necessary means for implementing the action (or ensure that such training and means are provided by entities with a capital or legal link);

(l) ensure that the researchers are adequately supervised;

(m) ensure that a career development plan is established and support its implementation;

(n) ensure an appropriate exposure to the non-academic sector;
32.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 33 — GENDER EQUALITY

33.1 Obligation to aim for gender equality

The beneficiaries must take all measures to promote equal opportunities between men and women in the implementation of the action. They must aim, to the extent possible, for a gender balance at all levels of personnel assigned to the action, including at supervisory and managerial level.

33.2 Consequences of non-compliance

If a beneficiary breaches its obligations under this Article, the Agency may apply any of the measures described in Chapter 6.

ARTICLE 34 — ETHICS AND RESEARCH INTEGRITY

34.1 Obligation to comply with ethical and research integrity principles

The beneficiaries must carry out the action in compliance with:

(a) ethical principles (including the highest standards of research integrity)

and

(b) applicable international, EU and national law.

Funding will not be granted for activities carried out outside the EU if they are prohibited in all Member States or for activities which destroy human embryos (for example, for obtaining stem cells).

The beneficiaries must ensure that the activities under the action have an exclusive focus on civil applications.

The beneficiaries must ensure that the activities under the action do not:

(a) aim at human cloning for reproductive purposes;

(b) intend to modify the genetic heritage of human beings which could make such changes heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed), or

(c) intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.
The beneficiaries must respect the highest standards of research integrity — as set out, for instance, in the European Code of Conduct for Research Integrity\textsuperscript{10}.

This implies notably compliance with the following essential principles:

- honesty;
- reliability;
- objectivity;
- impartiality;
- open communication;
- duty of care;
- fairness and
- responsibility for future science generations.

This means that beneficiaries must ensure that persons carrying out research tasks:

- present their research goals and intentions in an honest and transparent manner;
- design their research carefully and conduct it in a reliable fashion, taking its impact on society into account;
- use techniques and methodologies (including for data collection and management) that are appropriate for the field(s) concerned;
- exercise due care for the subjects of research — be they human beings, animals, the environment or cultural objects;
- ensure objectivity, accuracy and impartiality when disseminating the results;
- allow — as much as possible and taking into account the legitimate interest of the beneficiaries — access to research data, in order to enable research to be reproduced;
- make the necessary references to their work and that of other researchers;
- refrain from practicing any form of plagiarism, data falsification or fabrication;
- avoid double funding, conflicts of interest and misrepresentation of credentials or other research misconduct.

### 34.2 Activities raising ethical issues

Activities raising ethical issues must comply with the ‘ethics requirements’ set out as deliverables in Annex 1.

\textsuperscript{10} The European Code of Conduct for Research Integrity of ALLEA (All European Academies) and ESF (European Science Foundation) of March 2011.  
Before the beginning of an activity raising an ethical issue, each beneficiary must have obtained:

(a) any ethics committee opinion required under national law and

(b) any notification or authorisation for activities raising ethical issues required under national and/or European law

needed for implementing the action tasks in question.

The documents must be kept on file and be submitted upon request by the coordinator to the Agency (see Article 52). If they are not in English, they must be submitted together with an English summary, which shows that the action tasks in question are covered and includes the conclusions of the committee or authority concerned (if available).

34.3 Activities involving human embryos or human embryonic stem cells

Activities involving research on human embryos or human embryonic stem cells may be carried out, in addition to Article 34.1, only if:

- they are set out in Annex 1 or

- the coordinator has obtained explicit approval (in writing) from the Agency (see Article 52).

34.4 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or participation of the beneficiary may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 35 — CONFLICT OF INTERESTS

35.1 Obligation to avoid a conflict of interests

The beneficiaries must take all measures to prevent any situation where the impartial and objective implementation of the action is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest (‘conflict of interests’).

They must formally notify to the Agency without delay any situation constituting or likely to lead to a conflict of interests and immediately take all the necessary steps to rectify this situation.

The Agency may verify that the measures taken are appropriate and may require additional measures to be taken by a specified deadline.

35.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43) and the Agreement or participation of the beneficiary may be terminated (see Article 50).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 36 — CONFIDENTIALITY
36.1 General obligation to maintain confidentiality

During implementation of the action and for four years after the period set out in Article 3, the parties must keep confidential any data, documents or other material (in any form) that is identified as confidential at the time it is disclosed (‘confidential information’).

If a beneficiary requests, the Agency may agree to keep such information confidential for an additional period beyond the initial four years.

If information has been identified as confidential only orally, it will be considered to be confidential only if this is confirmed in writing within 15 days of the oral disclosure.

Unless otherwise agreed between the parties, they may use confidential information only to implement the Agreement.

The beneficiaries may disclose confidential information to their personnel, entities with a capital or legal link or partner organisations only if they:

(a) need to know to implement the Agreement and

(b) are bound by an obligation of confidentiality.

This does not change the security obligations in Article 37, which still apply.

The Agency may disclose confidential information to its staff, other EU institutions and bodies. It may disclose confidential information to third parties, if:

(a) this is necessary to implement the Agreement or safeguard the EU’s financial interests and

(b) the recipients of the information are bound by an obligation of confidentiality.

Under the conditions set out in Article 4 of the Rules for Participation Regulation No 1290/2013, the Commission must moreover make available information on the results to other EU institutions, bodies, offices or agencies as well as Member States or associated countries.

The confidentiality obligations no longer apply if:

(a) the disclosing party agrees to release the other party;

(b) the information was already known by the recipient or is given to him without obligation of confidentiality by a third party that was not bound by any obligation of confidentiality;

(c) the recipient proves that the information was developed without the use of confidential information;

(d) the information becomes generally and publicly available, without breaching any confidentiality obligation, or

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(e) the disclosure of the information is required by EU or national law.

36.2 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

ARTICLE 37 — SECURITY-RELATED OBLIGATIONS

37.1 Results with a security recommendation

Not applicable

37.2 Classified information

Not applicable

37.3 Activities involving dual-use goods or dangerous materials and substances

Not applicable

37.4 Consequences of non-compliance

Not applicable

ARTICLE 38 — PROMOTING THE ACTION — VISIBILITY OF EU FUNDING

38.1 Communication activities by beneficiaries

38.1.1 Obligation to promote the action and its results

The beneficiaries must promote the action and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner.

This does not change the dissemination obligations in Article 29, the confidentiality obligations in Article 36 or the security obligations in Article 37, all of which still apply.

Before engaging in a communication activity expected to have a mainstream media coverage the beneficiaries must inform the Agency (see Article 52).

38.1.2 Information on EU funding — Obligation and right to use the EU emblem

Unless the Agency requests or agrees otherwise or unless it is impossible, any communication activity related to the action (including in electronic form, via social media, etc.) and any infrastructure, equipment and major results funded by the grant must:

(a) display the EU emblem and

(b) include the following text:
For communication activities: “This project has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 765141”.

For infrastructure, equipment and major results: “This [infrastructure][equipment][insert type of result] is part of a project that has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 765141”.

When displayed together with another logo, the EU emblem must have appropriate prominence.

For the purposes of their obligations under this Article, the beneficiaries may use the EU emblem without first obtaining approval from the Agency.

This does not, however, give them the right to exclusive use.

Moreover, they may not appropriate the EU emblem or any similar trademark or logo, either by registration or by any other means.

38.1.3 Disclaimer excluding Agency and Commission responsibility

Any communication activity related to the action must indicate that it reflects only the author's view and that the Agency and the Commission are not responsible for any use that may be made of the information it contains.

38.2 Communication activities by the Agency and the Commission

38.2.1 Right to use beneficiaries’ materials, documents or information

The Agency and the Commission may use, for its communication and publicising activities, information relating to the action, documents notably summaries for publication and public deliverables as well as any other material, such as pictures or audio-visual material received from any beneficiary (including in electronic form).

This does not change the confidentiality obligations in Article 36 and the security obligations in Article 37, all of which still apply.

If the Agency’s or the Commission’s use of these materials, documents or information would risk compromising legitimate interests, the beneficiary concerned may request the Agency or the Commission not to use it (see Article 52).

The right to use a beneficiary’s materials, documents and information includes:

(a) use for its own purposes (in particular, making them available to persons working for the Agency, the Commission or any other EU institution, body, office or agency or body or institutions in EU Member States; and copying or reproducing them in whole or in part, in unlimited numbers);

(b) distribution to the public (in particular, publication as hard copies and in electronic or digital format, publication on the internet, as a downloadable or non-downloadable file, broadcasting by any channel, public display or presentation, communicating through press information services, or inclusion in widely accessible databases or indexes);

(c) editing or redrafting for communication and publicising activities (including shortening, summarising, inserting other elements (such as meta-data, legends, other graphic, visual, audio
or text elements), extracting parts (e.g. audio or video files), dividing into parts, use in a compilation);

(d) translation;

(e) giving **access in response to individual requests** under Regulation No 1049/2001\(^\text{13}\), without the right to reproduce or exploit;

(f) **storage** in paper, electronic or other form;

(g) **archiving**, in line with applicable document-management rules, and

(h) the right to authorise **third parties** to act on its behalf or sub-license the modes of use set out in Points (b), (c), (d) and (f) to third parties if needed for the communication and publicising activities of the Agency or the Commission.

If the right of use is subject to rights of a third party (including personnel of the beneficiary), the beneficiary must ensure that it complies with its obligations under this Agreement (in particular, by obtaining the necessary approval from the third parties concerned).

Where applicable (and if provided by the beneficiaries), the Agency or the Commission will insert the following information:

“© – [year] – [name of the copyright owner]. All rights reserved. Licensed to the Research Executive Agency (REA) and the European Union (EU) under conditions.”

### 38.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under this Article, the grant may be reduced (see Article 43).

Such breaches may also lead to any of the other measures described in Chapter 6.

**ARTICLE 39 — PROCESSING OF PERSONAL DATA**

#### 39.1 Processing of personal data by the Agency and the Commission

Any personal data under the Agreement will be processed by the Agency or the Commission under Regulation No 45/2001\(^\text{14}\) and according to the ‘notifications of the processing operations’ to the Data Protection Officer (DPO) of the Agency or the Commission (publicly accessible in the DPO register).

Such data will be processed by the ‘**data controller**’ of the Agency or the Commission for the purposes of implementing, managing and monitoring the Agreement or protecting the financial interests of the EU or Euratom (including checks, reviews, audits and investigations; see Article 22).

The persons whose personal data are processed have the right to access and correct their own personal data. For this purpose, they must send any queries about the processing of their personal data to the

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\(^\text{14}\) Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and on the free movement of such data (OJ L 8, 12.01.2001, p. 1).
data controller, via the contact point indicated in the privacy statement(s) that are published on the Agency and the Commission websites.

They also have the right to have recourse at any time to the European Data Protection Supervisor (EDPS).

39.2 Processing of personal data by the beneficiaries

The beneficiaries must process personal data under the Agreement in compliance with applicable EU and national law on data protection (including authorisations or notification requirements).

The beneficiaries may grant their personnel access only to data that is strictly necessary for implementing, managing and monitoring the Agreement.

The beneficiaries must inform the personnel whose personal data are collected and processed by the Agency or the Commission. For this purpose, they must provide them with the privacy statement(s) (see above), before transmitting their data to the Agency or the Commission.

39.3 Consequences of non-compliance

If a beneficiary breaches any of its obligations under Article 39.2, the Agency may apply any of the measures described in Chapter 6.

ARTICLE 40 — ASSIGNMENTS OF CLAIMS FOR PAYMENT AGAINST THE AGENCY

The beneficiaries may not assign any of their claims for payment against the Agency to any third party, except if approved by the Agency on the basis of a reasoned, written request by the coordinator (on behalf of the beneficiary concerned).

If the Agency has not accepted the assignment or the terms of it are not observed, the assignment will have no effect on it.

In no circumstances will an assignment release the beneficiaries from their obligations towards the Agency.

CHAPTER 5 DIVISION OF BENEFICIARIES’ ROLES AND RESPONSIBILITIES
— RELATIONSHIP WITH COMPLEMENTARY BENEFICIARIES —
RELATIONSHIP WITH PARTNERS OF A JOINT ACTION

ARTICLE 41 — DIVISION OF BENEFICIARIES’ ROLES AND RESPONSIBILITIES
— RELATIONSHIP WITH COMPLEMENTARY BENEFICIARIES —
RELATIONSHIP WITH PARTNERS OF A JOINT ACTION

41.1 Roles and responsibility towards the Agency

The beneficiaries have full responsibility for implementing the action and complying with the Agreement.

The beneficiaries are jointly and severally liable for the technical implementation of the action as described in Annex 1. If a beneficiary fails to implement its part of the action, the other beneficiaries
become responsible for implementing this part (without being entitled to any additional EU funding for doing so), unless the Agency expressly relieves them of this obligation.

The **financial responsibility** of each beneficiary is governed by Articles 44, 45 and 46.

### 41.2 Internal division of roles and responsibilities

The internal roles and responsibilities of the beneficiaries are divided as follows:

(a) Each **beneficiary** must:

   (i) keep information stored in the Participant Portal Beneficiary Register (via the electronic exchange system) up to date (see Article 17);

   (ii) inform the coordinator immediately of any events or circumstances likely to affect significantly or delay the implementation of the action (see Article 17);

   (iii) submit to the coordinator in good time:
   - individual financial statements for itself and, if required, certificates on the financial statements (see Article 20);
   - the data needed to draw up the technical reports (see Article 20);
   - ethics committee opinions and notifications or authorisations for activities raising ethical issues (see Article 34);
   - any other documents or information required by the Agency or the Commission under the Agreement, unless the Agreement requires the beneficiary to submit this information directly to the Agency or the Commission.

(b) The **coordinator** must:

   (i) monitor that the action is implemented properly (see Article 7);

   (ii) act as the intermediary for all communications between the beneficiaries and the Agency (in particular, providing the Agency with the information described in Article 17), unless the Agreement specifies otherwise;

   (iii) request and review any documents or information required by the Agency and verify their completeness and correctness before passing them on to the Agency;

   (iv) submit the deliverables and reports to the Agency (see Articles 19 and 20);

   (v) ensure that all payments are made to the other beneficiaries without unjustified delay (see Article 21);

   (vi) inform the Agency of the amounts paid to each beneficiary, when required under the Agreement (see Articles 44 and 50) or requested by the Agency.

The coordinator may not delegate or subcontract the above-mentioned tasks to any other beneficiary or third party (including entities with a capital or legal link and partner organisations).
As an exception, the coordinator delegates the tasks set out in Point 2(b)(v) and (vi) above to AMC Medical Research B.V.. The coordinator retains sole responsibility for the EU contribution and for compliance with the obligations under the Agreement.

41.3 Internal arrangements between beneficiaries — Consortium agreement

The beneficiaries must have internal arrangements regarding their operation and co-ordination to ensure that the action is implemented properly. These internal arrangements must be set out in a written ‘consortium agreement’ between the beneficiaries, which may cover:

- internal organisation of the consortium;
- management of access to the electronic exchange system;
- distribution of EU funding;
- additional rules on rights and obligations related to background and results (including whether access rights remain or not, if a beneficiary is in breach of its obligations) (see Section 3 of Chapter 4);
- settlement of internal disputes;
- liability, indemnification and confidentiality arrangements between the beneficiaries.

The consortium agreement must not contain any provision contrary to the Agreement.

41.4 Relationship with complementary beneficiaries — Collaboration agreement

Not applicable

41.5 Relationship with partners of a joint action — Coordination agreement

Not applicable

CHAPTER 6  REJECTION OF COSTS — REDUCTION OF THE GRANT — RECOVERY — SANCTIONS — DAMAGES — SUSPENSION — TERMINATION — FORCE MAJEURE

SECTION 1  REJECTION OF COSTS — REDUCTION OF THE GRANT — RECOVERY — SANCTIONS

ARTICLE 42 — REJECTION OF INELIGIBLE COSTS

42.1 Conditions

The Agency will — after termination of the participation of a beneficiary, at the time of an interim payment, at the payment of the balance or afterwards — reject any costs which are ineligible (see Article 6), in particular following checks, reviews, audits or investigations (see Article 22).
The rejection may also be based on the extension of findings from other grants to this grant (see Article 22.5.2).

42.2 Ineligible costs to be rejected — Calculation — Procedure

Ineligible costs will be rejected in full.

If the rejection of costs does not lead to a recovery (see Article 44), the Agency will formally notify the coordinator or beneficiary concerned of the rejection of costs, the amounts and the reasons why (if applicable, together with the notification of amounts due; see Article 21.5). The coordinator or beneficiary concerned may — within 30 days of receiving notification — formally notify the Agency of its disagreement and the reasons why.

If the rejection of costs leads to a recovery, the Agency will follow the contradictory procedure with pre-information letter set out in Article 44.

42.3 Effects

If the Agency rejects costs after termination of the participation of a beneficiary, it will deduct them from the costs declared by the beneficiary in the termination report and include the rejection in the calculation after termination (see Article 50.2 and 50.3).

If the Agency rejects costs at the time of an interim payment or the payment of the balance, it will deduct them from the total eligible costs declared, for the action, in the periodic or final summary financial statement (see Articles 20.3 and 20.4). It will then calculate the interim payment or payment of the balance as set out in Articles 21.3 or 21.4.

If the Agency — after an interim payment but before the payment of the balance — rejects costs declared in a periodic summary financial statement, it will deduct them from the total eligible costs declared, for the action, in the next periodic summary financial statement or in the final summary financial statement. It will then calculate the interim payment or payment of the balance as set out in Articles 21.3 or 21.4.

If the Agency rejects costs after the payment of the balance, it will deduct the amount rejected from the total eligible costs declared, by the beneficiary, in the final summary financial statement. It will then calculate the revised final grant amount as set out in Article 5.4.

ARTICLE 43 — REDUCTION OF THE GRANT

43.1 Conditions

The Agency may — after termination of the participation of a beneficiary, at the payment of the balance or afterwards — reduce the grant, if :

(a) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed:

   (i) substantial errors, irregularities or fraud or

   (ii) serious breach of obligations under the Agreement or during the award procedure
(including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles) or

(b) a beneficiary (or a natural person who has the power to represent or take decision on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 22.5.2).  

43.2 Amount to be reduced — Calculation — Procedure

The amount of the reduction will be proportionate to the seriousness of the errors, irregularities or fraud or breach of obligations.

Before reduction of the grant, the Agency will formally notify a ‘pre-information letter’ to the coordinator or beneficiary concerned:

- informing it of its intention to reduce the grant, the amount it intends to reduce and the reasons why and
- inviting it to submit observations within 30 days of receiving notification

If the Agency does not receive any observations or decides to pursue reduction despite the observations it has received, it will formally notify confirmation of the reduction (if applicable, together with the notification of amounts due; see Article 21).

43.3 Effects

If the Agency reduces the grant after termination of the participation of a beneficiary, it will calculate the reduced grant amount for that beneficiary and then determine the amount due to that beneficiary (see Article 50.2 and 50.3).

If the Agency reduces the grant at the time of the payment of the balance, it will calculate the reduced grant amount for the action and then determine the amount due as payment of the balance (see Articles 5.3.4 and 21.4).

If the Agency reduces the grant after the payment of the balance, it will calculate the revised final grant amount for the beneficiary concerned (see Article 5.4). If the revised final grant amount for the beneficiary concerned is lower than its share of the final grant amount, the Agency will recover the difference (see Article 44).

ARTICLE 44 — RECOVERY OF UNDUE AMOUNTS

44.1 Amount to be recovered — Calculation — Procedure

The Agency will — after termination of the participation of a beneficiary, at the payment of the balance or afterwards — claim back any amount that was paid, but is not due under the Agreement.

Each beneficiary’s financial responsibility in case of recovery is limited to its own debt, except for the amount retained for the Guarantee Fund (see Article 21.4).

44.1.1 Recovery after termination of a beneficiary’s participation
If recovery takes place after termination of a beneficiary’s participation (including the coordinator),
the Agency will claim back the undue amount from the beneficiary concerned, by formally notifying
it a debit note (see Article 50.2 and 50.3). This note will specify the amount to be recovered, the terms
and the date for payment.

If payment is not made by the date specified in the debit note, the Agency or the Commission will
**recover** the amount:

(a) by ‘offsetting’ it — without the beneficiary’s consent — against any amounts owed to the
beneficiary concerned by the Agency, the Commission or another executive agency (from the
EU or Euratom budget).

In exceptional circumstances, to safeguard the EU’s financial interests, the Agency may offset
before the payment date specified in the debit note;

(b) not applicable;

(c) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under
Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the
Financial regulation No 966/2012.

If payment is not made by the date specified in the debit note, the amount to be recovered (see above)
will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following
the payment date in the debit note, up to and including the date the Agency or the Commission receives
full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then
against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless

**44.1.2 Recovery at payment of the balance**

If the payment of the balance takes the form of a recovery (see Article 21.4), the Agency will formally
notify a ‘**pre-information letter**’ to the coordinator:

- informing it of its intention to recover, the amount due as the balance and the reasons why;
- specifying that it intends to deduct the amount to be recovered from the amount retained for
  the Guarantee Fund;
- requesting the coordinator to submit a report on the distribution of payments to the beneficiaries
  within 30 days of receiving notification, and
- inviting the coordinator to submit observations within 30 days of receiving notification.

If no observations are submitted or the Agency decides to pursue recovery despite the observations it

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in the internal market amending Directives 97/7/EC, 2002/65/EC, 2005/60/EC and 2006/48/EC and repealing
has received, it will confirm recovery (together with the notification of amounts due; see Article 21.5) and:

- pay the difference between the amount to be recovered and the amount retained for the Guarantee Fund, if the difference is positive or

- formally notify to the coordinator a debit note for the difference between the amount to be recovered and the amount retained for the Guarantee Fund, if the difference is negative. This note will also specify the terms and the date for payment.

If the coordinator does not repay the Agency by the date in the debit note and has not submitted the report on the distribution of payments: the Agency or the Commission will recover the amount set out in the debit note from the coordinator (see below).

If the coordinator does not repay the Agency by the date in the debit note, but has submitted the report on the distribution of payments: the Agency will:

(a) identify the beneficiaries for which the amount calculated as follows is negative:

\[
\left\{ \left\{ \text{beneficiary’s costs declared in the final summary financial statement and approved by the Agency multiplied by the reimbursement rate set out in Article 5.2 for the beneficiary concerned} \right\} \div \text{the EU contribution for the action calculated according to Article 5.3.1} \right\} \times \text{the final grant amount (see Article 5.3)},
\]

minus

\{pre-financing and interim payments received by the beneficiary\}.

(b) formally notify to each beneficiary identified according to point (a) a debit note specifying the terms and date for payment. The amount of the debit note is calculated as follows:

\[
\left\{ \frac{\text{amount calculated according to point (a) for the beneficiary concerned}}{\text{the sum of the amounts calculated according to point (a) for all the beneficiaries identified according to point (a)}} \right\} \times \text{the amount set out in the debit note formally notified to the coordinator}.
\]

If payment is not made by the date specified in the debit note, the Agency will recover the amount:

(a) by ‘offsetting’ it — without the beneficiary’s consent — against any amounts owed to the beneficiary concerned by the Agency, the Commission or another executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU’s financial interests, the Agency may offset before the payment date specified in the debit note;
(b) by **drawing on the Guarantee Fund**. The Agency or the Commission will formally notify the beneficiary concerned the debit note on behalf of the Guarantee Fund and recover the amount:

(i) not applicable;

(ii) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the payment date in the debit note, up to and including the date the Agency or the Commission receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

**44.1.3 Recovery of amounts after payment of the balance**

If, for a beneficiary, the revised final grant amount (see Article 5.4) is lower than its share of the final grant amount, it must repay the difference to the Agency.

The beneficiary’s share of the final grant amount is calculated as follows:

\[
\{ \frac{\{ \text{beneficiary’s costs declared in the final summary financial statement and approved by the Agency multiplied by the reimbursement rate set out in Article 5.2 for the beneficiary concerned} \}}{\text{the EU contribution for the action calculated according to Article 5.3.1}} \} \times \text{the final grant amount (see Article 5.3)}
\]

If the coordinator has not distributed amounts received (see Article 21.7), the Agency will also recover these amounts.

The Agency will formally notify a **pre-information letter** to the beneficiary concerned:

- informing it of its intention to recover, the due amount and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If no observations are submitted or the Agency decides to pursue recovery despite the observations it has received, it will **confirm** the amount to be recovered and formally notify to the beneficiary concerned a **debit note**. This note will also specify the terms and the date for payment.

If payment is not made by the date specified in the debit note, the Agency will **recover** the amount:

(a) by ‘**offsetting**’ it — without the beneficiary’s consent — against any amounts owed to the
beneficiary concerned by the Agency, the Commission or another executive agency (from the EU or Euratom budget).

In exceptional circumstances, to safeguard the EU’s financial interests, the Agency may offset before the payment date specified in the debit note:

(b) by **drawing on the Guarantee Fund.** The Agency or the Commission will formally notify the beneficiary concerned the debit note on behalf of the Guarantee Fund and recover the amount:

(i) not applicable;

(ii) by **taking legal action** (see Article 57) or by **adopting an enforceable decision** under Article 299 of the Treaty on the Functioning of the EU (TFEU) and Article 79(2) of the Financial Regulation No 966/2012.

If payment is not made by the date in the debit note, the amount to be recovered (see above) will be increased by **late-payment interest** at the rate set out in Article 21.11, from the day following the date for payment in the debit note, up to and including the date the Agency or the Commission receives full payment of the amount.

Partial payments will be first credited against expenses, charges and late-payment interest and then against the principal.

Bank charges incurred in the recovery process will be borne by the beneficiary, unless Directive 2007/64/EC applies.

**ARTICLE 45 — ADMINISTRATIVE SANCTIONS**

In addition to contractual measures, the Agency or the Commission may also adopt administrative sanctions under Articles 106 and 131(4) of the Financial Regulation No 966/2012 (i.e. exclusion from future procurement contracts, grants and expert contracts and/or financial penalties).

**SECTION 2   LIABILITY FOR DAMAGES**

**ARTICLE 46 — LIABILITY FOR DAMAGES**

46.1 **Liability of the Agency**

The Agency cannot be held liable for any damage caused to the beneficiaries or to third parties as a consequence of implementing the Agreement, including for gross negligence.

The Agency cannot be held liable for any damage caused by any of the beneficiaries or third parties involved in the action, as a consequence of implementing the Agreement.

46.2 **Liability of the beneficiaries**

Except in case of force majeure (see Article 51), the beneficiaries must compensate the Agency for any damage it sustains as a result of the implementation of the action or because the action was not implemented in full compliance with the Agreement.
SECTION 3   SUSPENSION AND TERMINATION

ARTICLE 47 — SUSPENSION OF PAYMENT DEADLINE

47.1 Conditions
The Agency may — at any moment — suspend the payment deadline (see Article 21.2 to 21.4) if a request for payment (see Article 20) cannot be approved because:

(a) it does not comply with the provisions of the Agreement (see Article 20);

(b) the technical or financial reports have not been submitted or are not complete or additional information is needed, or

(c) there is doubt about the eligibility of the costs declared in the financial statements and additional checks, reviews, audits or investigations are necessary.

47.2 Procedure
The Agency will formally notify the coordinator of the suspension and the reasons why.

The suspension will take effect the day notification is sent by the Agency (see Article 52).

If the conditions for suspending the payment deadline are no longer met, the suspension will be lifted — and the remaining period will resume.

If the suspension exceeds two months, the coordinator may request the Agency if the suspension will continue.

If the payment deadline has been suspended due to the non-compliance of the technical or financial reports (see Article 20) and the revised report or statement is not submitted or was submitted but is also rejected, the Agency may also terminate the Agreement or the participation of the beneficiary (see Article 50.3.1(l)).

ARTICLE 48 — SUSPENSION OF PAYMENTS

48.1 Conditions
The Agency may — at any moment — suspend payments, in whole or in part and interim payments or the payment of the balance for one or more beneficiaries, if:

(a) a beneficiary (or a natural person who has the power to represent or take decision on its behalf) has committed or is suspected of having committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles) or

(b) a beneficiary (or a natural person who has the power to represent or take decision on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions —
systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 22.5.2).

If payments are suspended for one or more beneficiaries, the Agency will make partial payment(s) for the part(s) not suspended. If suspension concerns the payment of the balance, once suspension is lifted — the payment or the recovery of the amount(s) concerned will be considered the payment of the balance that closes the action.

48.2 Procedure

Before suspending payments, the Agency will formally notify the coordinator or beneficiary concerned:

- informing it of its intention to suspend payments and the reasons why and
- inviting it to submit observations within 30 days of receiving notification.

If the Agency does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify confirmation of the suspension. Otherwise, it will formally notify that the suspension procedure is not continued.

The suspension will take effect the day the confirmation notification is sent by the Agency.

If the conditions for resuming payments are met, the suspension will be lifted. The Agency will formally notify the coordinator or beneficiary concerned.

During the suspension, the periodic report(s) for all reporting periods except the last one (see Article 20.3), must not contain any individual financial statements from the beneficiary concerned. The coordinator must include them in the next periodic report after the suspension is lifted or — if suspension is not lifted before the end of the action — in the last periodic report.

The beneficiaries may suspend implementation of the action (see Article 49.1) or terminate the Agreement or the participation of the beneficiary concerned (see Article 50.1 and 50.2).

ARTICLE 49 — SUSPENSION OF THE ACTION IMPLEMENTATION

49.1 Suspension of the action implementation, by the beneficiaries

49.1.1 Conditions

The beneficiaries may suspend implementation of the action or any part of it, if exceptional circumstances — in particular force majeure (see Article 51) — make implementation impossible or excessively difficult.

49.1.2 Procedure

The coordinator must immediately formally notify to the Agency the suspension (see Article 52), stating:

- the reasons why and
- the expected date of resumption.

The suspension will take effect the day this notification is received by the Agency.

Once circumstances allow for implementation to resume, the coordinator must immediately formally notify the Agency and request an amendment of the Agreement to set the date on which the action will be resumed, extend the duration of the action and make other changes necessary to adapt the action to the new situation (see Article 55) — unless the Agreement or the participation of a beneficiary has been terminated (see Article 50).

The suspension will be lifted with effect from the resumption date set out in the amendment. This date may be before the date on which the amendment enters into force.

Costs incurred during suspension of the action implementation are not eligible (see Article 6).

49.2 Suspension of the action implementation, by the Agency

49.2.1 Conditions

The Agency may suspend implementation of the action or any part of it, if:

(a) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed or is suspected of having committed:

   (i) substantial errors, irregularities or fraud or

   (ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false declaration, failure to provide required information, breach of ethical principles);

(b) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 22.5.2), or

(c) the action is suspected of having lost its scientific or technological relevance.

49.2.2 Procedure

Before suspending implementation of the action, the Agency will formally notify the coordinator or beneficiary concerned:

- informing it of its intention to suspend the implementation and the reasons why and

- inviting it to submit observations within 30 days of receiving notification.

If the Agency does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify confirmation of the suspension. Otherwise, it will formally notify that the procedure is not continued.
The suspension will **take effect** five days after confirmation notification is received (or on a later date specified in the notification).

It will be **lifted** if the conditions for resuming implementation of the action are met.

The coordinator or beneficiary concerned will be formally notified of the lifting and the Agreement will be **amended** to set the date on which the action will be resumed, extend the duration of the action and make other changes necessary to adapt the action to the new situation (see Article 55) — unless the Agreement has already been terminated (see Article 50).

The suspension will be lifted with effect from the resumption date set out in the amendment. This date may be before the date on which the amendment enters into force.

Costs incurred during suspension are not eligible (see Article 6).

The beneficiaries may not claim damages due to suspension by the Agency (see Article 46).

Suspension of the action implementation does not affect the Agency’s right to terminate the Agreement or participation of a beneficiary (see Article 50), reduce the grant or recover amounts unduly paid (see Articles 43 and 44).

**ARTICLE 50 — TERMINATION OF THE AGREEMENT OR OF THE PARTICIPATION OF ONE OR MORE BENEFICIARIES**

50.1 Termination of the Agreement, by the beneficiaries

50.1.1 Conditions and procedure

The beneficiaries may terminate the Agreement.

The coordinator must formally notify termination to the Agency (see Article 52), stating:

- the reasons why and

- the date the termination will take effect. This date must be after the notification.

If no reasons are given or if the Agency considers the reasons do not justify termination, the Agreement will be considered to have been ‘**terminated improperly**’.

The termination will **take effect** on the day specified in the notification.

50.1.2 Effects

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a periodic report (for the open reporting period until termination; see Article 20.3) and

(ii) the final report (see Article 20.4).

If the Agency does not receive the reports within the deadline (see above), only costs which are included in an approved periodic report will be taken into account.

The Agency will **calculate** the final grant amount (see Article 5.3) and the balance (see Article 21.4).
on the basis of the reports submitted. Only costs incurred until termination are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

Improper termination may lead to a reduction of the grant (see Article 43).

After termination, the beneficiaries’ obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

50.2 Termination of the participation of one or more beneficiaries, by the beneficiaries

50.2.1 Conditions and procedure

The participation of one or more beneficiaries may be terminated by the coordinator, on request of the beneficiary concerned or on behalf of the other beneficiaries.

The coordinator must formally notify termination to the Agency (see Article 52) and inform the beneficiary concerned.

If the coordinator’s participation is terminated without its agreement, the formal notification must be done by another beneficiary (acting on behalf of the other beneficiaries).

The notification must include:

- the reasons why;
- the opinion of the beneficiary concerned (or proof that this opinion has been requested in writing);
- the date the termination takes effect. This date must be after the notification, and
- a request for amendment (see Article 55), with a proposal for reallocation of the tasks and the estimated budget of the beneficiary concerned (see Annexes 1 and 2) and, if necessary, the addition of one or more new beneficiaries (see Article 56). If termination takes effect after the period set out in Article 3, no request for amendment must be included unless the beneficiary concerned is the coordinator. In this case, the request for amendment must propose a new coordinator.

If this information is not given or if the Agency considers that the reasons do not justify termination, the participation will be considered to have been terminated improperly.

The termination will take effect on the day specified in the notification.

50.2.2 Effects

The coordinator must — within 30 days from when termination takes effect — submit:

(i) a report on the distribution of payments to the beneficiary concerned and

(ii) if termination takes effect during the period set out in Article 3, a ‘termination report’ from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, an overview of the use of resources, the
individual financial statement and, if applicable, the certificate on the financial statement (see Articles 20.3 and 20.4).

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 20.3).

If the request for amendment is rejected by the Agency, (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the Agreement may be terminated according to Article 50.3.1(c).

If the request for amendment is accepted by the Agency, the Agreement is amended to introduce the necessary changes (see Article 55).

The Agency will — on the basis of the periodic reports, the termination report and the report on the distribution of payments — calculate the amount which is due to the beneficiary and if the (pre-financing and interim) payments received by the beneficiary exceed this amount.

The amount which is due is calculated in the following steps:

Step 1 — Application of the reimbursement rate to the eligible costs

The grant amount for the beneficiary is calculated by applying the reimbursement rate(s) to the total eligible costs declared by the beneficiary in the termination report and approved by the Agency.

Only costs incurred by the beneficiary concerned until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

Step 2 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations

In case of a reduction (see Article 43), the Agency will calculate the reduced grant amount for the beneficiary by deducting the amount of the reduction (calculated in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations, in accordance with Article 43.2) from the grant amount for the beneficiary.

If the payments received exceed the amounts due:

- if termination takes effect during the period set out in Article 3 and the request for amendment is accepted, the beneficiary concerned must repay to the coordinator the amount unduly received. The Agency will formally notify the amount unduly received and request the beneficiary concerned to repay it to the coordinator within 30 days of receiving notification. If it does not repay the coordinator, the Agency will draw upon the Guarantee Fund to pay the coordinator and then notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);

- in all other cases, in particular if termination takes effect after the period set out in Article 3, the Agency will formally notify a debit note to the beneficiary concerned. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the Agency the amount due
and the Agency will notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);

- if the beneficiary concerned is the former coordinator, it must repay the new coordinator according to the procedure above, unless:
  - termination takes effect after an interim payment and
  - the former coordinator has not distributed amounts received as pre-financing or interim payments (see Article 21.7).

In this case, the Agency will formally notify a debit note to the former coordinator. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the Agency the amount due. The Agency will then pay the new coordinator and notify a debit note on behalf of the Guarantee Fund to the former coordinator (see Article 44).

If the payments received do not exceed the amounts due: amounts owed to the beneficiary concerned will be included in the next interim or final payment.

If the Agency does not receive the termination report within the deadline (see above), only costs included in an approved periodic report will be taken into account.

If the Agency does not receive the report on the distribution of payments within the deadline (see above), it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

Improper termination may lead to a reduction of the grant (see Article 43) or termination of the Agreement (see Article 50).

After termination, the concerned beneficiary’s obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

50.3 Termination of the Agreement or the participation of one or more beneficiaries, by the Agency

50.3.1 Conditions

The Agency may terminate the Agreement or the participation of one or more beneficiaries, if:

(a) one or more beneficiaries do not accede to the Agreement (see Article 56);

(b) a change to their legal, financial, technical, organisational or ownership situation (or those of an entity with a capital or legal link) is likely to substantially affect or delay the implementation of the action or calls into question the decision to award the grant;

(c) following termination of participation for one or more beneficiaries (see above), the necessary changes to the Agreement would call into question the decision awarding the grant or breach the principle of equal treatment of applicants (see Article 55);
(d) implementation of the action is prevented by force majeure (see Article 51) or suspended by the coordinator (see Article 49.1) and either:

(i) resumption is impossible, or

(ii) the necessary changes to the Agreement would call into question the decision awarding the grant or breach the principle of equal treatment of applicants;

(e) a beneficiary is declared bankrupt, being wound up, having its affairs administered by the courts, has entered into an arrangement with creditors, has suspended business activities, or is subject to any other similar proceedings or procedures under national law;

(f) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has been found guilty of professional misconduct, proven by any means;

(g) a beneficiary does not comply with the applicable national law on taxes and social security;

(h) the action has lost scientific or technological relevance;

(i) not applicable;

(j) not applicable;

(k) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed fraud, corruption, or is involved in a criminal organisation, money laundering or any other illegal activity;

(l) a beneficiary (or a natural person who has the power to represent or take decisions on its behalf) has committed:

(i) substantial errors, irregularities or fraud or

(ii) serious breach of obligations under the Agreement or during the award procedure (including improper implementation of the action, submission of false information, failure to provide required information, breach of ethical principles);

(m) a beneficiary (or the natural person who has the power to represent or take decisions on its behalf) has committed — in other EU or Euratom grants awarded to it under similar conditions — systemic or recurrent errors, irregularities, fraud or serious breach of obligations that have a material impact on this grant (extension of findings from other grants to this grant; see Article 22.5.2).

(n) despite a specific request by the Agency, a beneficiary does not request — through the coordinator — an amendment to the Agreement to end the participation of an entity with a capital or legal link that is in one of the situations under points (e), (f), (g), (k), (l) or (m) and to reallocate its tasks.

50.3.2 Procedure

Before terminating the Agreement or participation of one or more beneficiaries, the Agency will formally notify the coordinator or beneficiary concerned:

- informing it of its intention to terminate and the reasons why and
- inviting it, within 30 days of receiving notification, to submit observations and — in case of Point (l.ii) above — to inform the Agency of the measures to ensure compliance with the obligations under the Agreement.

If the Agency does not receive observations or decides to pursue the procedure despite the observations it has received, it will formally notify to the coordinator or beneficiary concerned confirmation of the termination and the date it will take effect. Otherwise, it will formally notify that the procedure is not continued.

The termination will **take effect**:

- for terminations under Points (b), (c), (e), (g), (h), and (l.ii) above: on the day specified in the notification of the confirmation (see above);

- for terminations under Points (a), (d), (f), (k), (l.1) and (m) above: on the day after the notification of the confirmation is received.

### 50.3.3 Effects

(a) for **termination of the Agreement**:

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a periodic report (for the last open reporting period until termination; see Article 20.3) and

(ii) a final report (see Article 20.4).

If the Agreement is terminated for breach of the obligation to submit reports (see Articles 20.8 and 50.3.1(l)), the coordinator may not submit any reports after termination.

If the Agency does not receive the reports within the deadline (see above), only costs which are included in an approved periodic report will be taken into account.

The Agency will calculate the final grant amount (see Article 5.3) and the balance (see Article 21.4) on the basis of the reports submitted. Only costs incurred until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

This does not affect the Agency’s right to reduce the grant (see Article 43) or to impose administrative sanctions (Article 45).

The beneficiaries may not claim damages due to termination by the Agency (see Article 46).

After termination, the beneficiaries’ obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

(b) for **termination of the participation of one or more beneficiaries**:

The coordinator must — within 60 days from when termination takes effect — submit:

(i) a report on the distribution of payments to the beneficiary concerned;
(ii) a request for amendment (see Article 55), with a proposal for reallocation of the tasks and estimated budget of the beneficiary concerned (see Annexes 1 and 2) and, if necessary, the addition of one or more new beneficiaries (see Article 56). If termination is notified after the period set out in Article 3, no request for amendment must be submitted unless the beneficiary concerned is the coordinator. In this case the request for amendment must propose a new coordinator, and

(iii) if termination takes effect during the period set out in Article 3, a termination report from the beneficiary concerned, for the open reporting period until termination, containing an overview of the progress of the work, an overview of the use of resources, the individual financial statement and, if applicable, the certificate on the financial statement (see Article 20).

The information in the termination report must also be included in the periodic report for the next reporting period (see Article 20.3).

If the request for amendment is rejected by the Agency, (because it calls into question the decision awarding the grant or breaches the principle of equal treatment of applicants), the Agreement may be terminated according to Article 50.3.1(c).

If the request for amendment is accepted by the Agency, the Agreement is amended to introduce the necessary changes (see Article 55).

The Agency will — on the basis of the periodic reports, the termination report and the report on the distribution of payments — calculate the amount which is due to the beneficiary and if the (pre-financing and interim) payments received by the beneficiary exceed this amount.

The amount which is due is calculated in the following steps:

Step 1 — Application of the reimbursement rate to the eligible costs

The grant amount for the beneficiary is calculated by applying the reimbursement rate(s) to the total eligible costs declared by the beneficiary in the termination report and approved by the Agency.

Only costs incurred by the beneficiary concerned until termination takes effect are eligible (see Article 6). Costs relating to contracts due for execution only after termination are not eligible.

Step 2 — Reduction due to substantial errors, irregularities or fraud or serious breach of obligations

In case of a reduction (see Article 43), the Agency will calculate the reduced grant amount for the beneficiary by deducting the amount of the reduction (calculated in proportion to the seriousness of the errors, irregularities or fraud or breach of obligations, in accordance with Article 43.2) from the grant amount for the beneficiary.

If the payments received exceed the amounts due:

- if termination takes effect during the period set out in Article 3 and the request for
If an amendment is accepted, the beneficiary concerned must repay to the coordinator the amount unduly received. The Agency will formally notify the amount unduly received and request the beneficiary concerned to repay it to the coordinator within 30 days of receiving notification. If it does not repay the coordinator, the Agency will draw upon the Guarantee Fund to pay the coordinator and then notify a **debit note** on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);

- in all other cases, in particular if termination takes effect after the period set out in Article 3, the Agency will formally notify a **debit note** to the beneficiary concerned. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the Agency the amount due and the Agency will notify a debit note on behalf of the Guarantee Fund to the beneficiary concerned (see Article 44);

- if the beneficiary concerned is the former coordinator, it must repay the new coordinator according to the procedure above, unless:
  - termination takes effect after an interim payment and
  - the former coordinator has not distributed amounts received as pre-financing or interim payments (see Article 21.7).

In this case, the Agency will formally notify a **debit note** to the former coordinator. If payment is not made by the date in the debit note, the Guarantee Fund will pay to the Agency the amount due. The Agency will then pay the new coordinator and notify a debit note on behalf of the Guarantee Fund to the former coordinator (see Article 44).

If the payments received **do not exceed the amounts due**: amounts owed to the beneficiary concerned will be included in the next interim or final payment.

If the Agency does not receive the termination report within the deadline (see above), only costs included in an approved periodic report will be taken into account.

If the Agency does not receive the report on the distribution of payments within the deadline (see above), it will consider that:

- the coordinator did not distribute any payment to the beneficiary concerned and that
- the beneficiary concerned must not repay any amount to the coordinator.

After termination, the concerned beneficiary’s obligations (in particular Articles 20, 22, 23, Section 3 of Chapter 4, 36, 37, 38, 40, 42, 43 and 44) continue to apply.

**SECTION 4   FORCE MAJEURE**

**ARTICLE 51 — FORCE MAJEURE**

‘Force majeure’ means any situation or event that:

- prevents either party from fulfilling their obligations under the Agreement,
- was unforeseeable, exceptional situation and beyond the parties’ control,
- was not due to error or negligence on their part (or on the part of third parties involved in the action), and

- proves to be inevitable in spite of exercising all due diligence.

The following cannot be invoked as force majeure:

- any default of a service, defect in equipment or material or delays in making them available, unless they stem directly from a relevant case of force majeure,

- labour disputes or strikes, or

- financial difficulties.

Any situation constituting force majeure must be formally notified to the other party without delay, stating the nature, likely duration and foreseeable effects.

The parties must immediately take all the necessary steps to limit any damage due to force majeure and do their best to resume implementation of the action as soon as possible.

The party prevented by force majeure from fulfilling its obligations under the Agreement cannot be considered in breach of them.

CHAPTER 7   FINAL PROVISIONS

ARTICLE 52 — COMMUNICATION BETWEEN THE PARTIES

52.1 Form and means of communication

Communication under the Agreement (information, requests, submissions, ‘formal notifications’, etc.) must:

- be made in writing and

- bear the number of the Agreement.

Until the payment of the balance: all communication must be made through the electronic exchange system and using the forms and templates provided there.

After the payment of the balance: formal notifications must be made by registered post with proof of delivery (‘formal notification on paper’).

Communications in the electronic exchange system must be made by persons authorised according to the Participant Portal Terms & Conditions. For naming the authorised persons, each beneficiary must have designated — before the signature of this Agreement — a ‘legal entity appointed representative (LEAR)’. The role and tasks of the LEAR are stipulated in his/her appointment letter (see Participant Portal Terms & Conditions).

If the electronic exchange system is temporarily unavailable, instructions will be given on the Agency and Commission websites.
52.2 Date of communication

Communications are considered to have been made when they are sent by the sending party (i.e. on the date and time they are sent through the electronic exchange system).

Formal notifications through the electronic exchange system are considered to have been made when they are received by the receiving party (i.e. on the date and time of acceptance by the receiving party, as indicated by the time stamp). A formal notification that has not been accepted within 10 days after sending is considered to have been accepted.

Formal notifications on paper sent by registered post with proof of delivery (only after the payment of the balance) are considered to have been made on either:

- the delivery date registered by the postal service or
- the deadline for collection at the post office.

If the electronic exchange system is temporarily unavailable, the sending party cannot be considered in breach of its obligation to send a communication within a specified deadline.

52.3 Addresses for communication

The electronic exchange system must be accessed via the following URL:


The Agency will formally notify the coordinator and beneficiaries in advance any changes to this URL.

Formal notifications on paper (only after the payment of the balance) addressed to the Agency must be sent to the following address:

Research Executive Agency
Marie Sklodowska-Curie Innovative Training Networks
COV 2
B-1049 Brussels Belgium

Formal notifications on paper (only after the payment of the balance) addressed to the beneficiaries must be sent to their legal address as specified in the Participant Portal Beneficiary Register.

ARTICLE 53 — INTERPRETATION OF THE AGREEMENT

53.1 Precedence of the Terms and Conditions over the Annexes

The provisions in the Terms and Conditions of the Agreement take precedence over its Annexes.

Annex 2 takes precedence over Annex 1.

53.2 Privileges and immunities

Not applicable

ARTICLE 54 — CALCULATION OF PERIODS, DATES AND DEADLINES
In accordance with Regulation No 1182/71\(^\text{16}\), periods expressed in days, months or years are calculated from the moment the triggering event occurs.

The day during which that event occurs is not considered as falling within the period.

**ARTICLE 55 — AMENDMENTS TO THE AGREEMENT**

**55.1 Conditions**

The Agreement may be amended, unless the amendment entails changes to the Agreement which would call into question the decision awarding the grant or breach the principle of equal treatment of applicants.

Amendments may be requested by any of the parties.

**55.2 Procedure**

The party requesting an amendment must submit a request for amendment signed in the electronic exchange system (see Article 52).

The coordinator submits and receives requests for amendment on behalf of the beneficiaries (see Annex 3).

If a change of coordinator is requested without its agreement, the submission must be done by another beneficiary (acting on behalf of the other beneficiaries).

The request for amendment must include:

- the reasons why;
- the appropriate supporting documents;
- for a change of coordinator without its agreement: the opinion of the coordinator (or proof that this opinion has been requested in writing).

The Agency may request additional information.

If the party receiving the request agrees, it must sign the amendment in the electronic exchange system within 45 days of receiving notification (or any additional information the Agency has requested). If it does not agree, it must formally notify its disagreement within the same deadline. The deadline may be extended, if necessary for the assessment of the request. If no notification is received within the deadline, the request is considered to have been rejected.

An amendment **enters into force** on the day of the signature of the receiving party.

An amendment **takes effect** on the date agreed by the parties or, in the absence of such an agreement, on the date on which the amendment enters into force.

**ARTICLE 56 — ACCESSION TO THE AGREEMENT**

56.1 Accession of the beneficiaries mentioned in the Preamble

The other beneficiaries must accede to the Agreement by signing the Accession Form (see Annex 3) in the electronic exchange system (see Article 52) within 30 days after its entry into force (see Article 58).

They will assume the rights and obligations under the Agreement with effect from the date of its entry into force (see Article 58).

If a beneficiary does not accede to the Agreement within the above deadline, the coordinator must — within 30 days — request an amendment to make any changes necessary to ensure proper implementation of the action. This does not affect the Agency’s right to terminate the Agreement (see Article 50).

56.2 Addition of new beneficiaries

In justified cases, the beneficiaries may request the addition of a new beneficiary.

For this purpose, the coordinator must submit a request for amendment in accordance with Article 55. It must include an Accession Form (see Annex 3) signed by the new beneficiary in the electronic exchange system (see Article 52).

New beneficiaries must assume the rights and obligations under the Agreement with effect from the date of their accession specified in the Accession Form (see Annex 3).

ARTICLE 57 — APPLICABLE LAW AND SETTLEMENT OF DISPUTES

57.1 Applicable law

The Agreement is governed by the applicable EU law, supplemented if necessary by the law of Belgium.

57.2 Dispute settlement

If a dispute concerning the interpretation, application or validity of the Agreement cannot be settled amicably, the General Court — or, on appeal, the Court of Justice of the European Union — has sole jurisdiction. Such actions must be brought under Article 272 of the Treaty on the Functioning of the EU (TFEU).

If a dispute concerns administrative sanctions, offsetting or an enforceable decision under Article 299 TFEU (see Articles 44, 45 and 46), the beneficiaries must bring action before the General Court — or, on appeal, the Court of Justice of the European Union — under Article 263 TFEU. Actions against enforceable decisions must be brought against the Commission (not against the Agency).
ARTICLE 58 — ENTRY INTO FORCE OF THE AGREEMENT

The Agreement will enter into force on the day of signature by the Agency or the coordinator, depending on which is later.

SIGNATURES

For the coordinator

[johannes ROMIJN with ECAS id nromijjo signed in the
Participant Portal on 15/08/2017 at 11:11:15 (transaction id SigId-18703- QcoFSZPs6Su6OlkehATDLjSRzHZSux3GTWiiCAouj3 c4N0BspMczZzwCDO4XJzkSaW8TroBR7VW55rOPdeN NU-Jj71zxYb8yrZGsulQEWF2m-]

For the Agency

[ Signed by Klaus-Guenther BARTHEL with ECAS id
barthkl as an authorised representative on 30-08-2017
16:21:15 (transaction id SigId-28712- f2T7LT0qYnqiXEHuHB5yfSAllzr4sqC8N6Kqzw9Cs61 EhffZ4k6MBtIRJMMVhjLUveze6kv2cVHnlZczgt2Kcu- Jj71zxYb8yrN6HT4pVHCoC- ]
ANNEX 1 (part A)

European Training Networks

NUMBER — 765141 — HealthPros
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### 1.1. The project summary

<table>
<thead>
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<th>HealthPros</th>
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#### One form per project

#### General information

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#### Abstract

Balancing between improving population health, delivering quality care for individuals, and containing costs is a timely social/economical challenge in Europe. There is great potential achieving this through healthcare (HC) system performance intelligence optimizing effective use of available HC data in countries. Effective implementation of HC performance intelligence (HPI) by skilled professionals will improve integrated service delivery; patient engagement; equality in access to HC; health outcomes; and reduce waste in HC. Translating HC data into meaningful, valid, actionable performance intelligence that is transferrable into actions to improve HC systems requires multidisciplinary skills & innovative competencies; currently not well developed in training programmes and the scientific community and missing in today’s European HC market. The ETN for HPI Professionals (HealthPros) fills this gap and directly impacts the European Research Area by training innovative “Healthcare Performance Intelligence Professionals” unifying a multidisciplinary consortium tackling private, public, academic sectors. 13 ESRs will be trained in multidisciplinary innovative scientific technical and complementary skills, seconded to private / public / academic HC sectors in multiple countries and build relations with potential future employers. 5 ESRs work on PhD projects related to HC performance measurement optimizing the use of available registry and administrative data and applying statistical models to provide actionable input to HC performance management. 4 ESRs work on PhDs to translate performance intelligence into value-creating HC governance mechanisms; 4 ESRs work on PhDs aimed to impact the actual use of performance intelligence by different end-users. ESRs will have unique HC data access.
1.2. List of Beneficiaries

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### 1.3. Workplan Tables - Detailed implementation

#### 1.3.1. WT1 List of work packages

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1.3.3. WT3 Work package descriptions

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**Objectives**

To measure healthcare system performance in the five healthcare system strengthening performance areas in a reliable, valid, meaningful and actionable way based on available healthcare data to support the achievement of the Triple Aim.

**Description of work and role of partners**


SURREY

A wealth of data covering the structure, processes and outcome of care is available in the network at national, local and regional level of healthcare systems (AMC, AUH, SURREY, OPTIMEDIS, UNIDUNDE). Based on current political incentive and assignment for health care performance measurements at national and regional level (Netherlands, Denmark, UK and Germany), advanced quantitative and qualitative measurements will take place to harness the power of “Big Data” in a secure and ethically robust environment (see also ethics section). Project 1.1 (Task 1.1): Transferability of actionable performance indicators (AMC). ESR 1 will identify the characteristics of indicators used in Europe and Canada (CIHI, partner) as well as the conditions in which they are used (e.g. specific purposes for healthcare performance measurement) that are likely to contribute to their actionability and the extent this has led to measurable results for the Triple Aim. ESR 1 will support the transferability of actionable use of health care performance indicators across health care systems. RIVM (Partner) will provide essential national and European practices to establish this link.

Project 1.2 (Task 1.2): Quality of health care for vulnerable populations: Are We Closing Disparity Gaps? (AUH). ESR2 will apply clinical epidemiology methods, biostatistics and data management to combine and blend new approaches that suits local requirement for health care performance management in the performance areas equity in access and reaching better outcomes. ESR2 will prioritize disparities in quality of healthcare services for vulnerable patients according to age, gender, socioeconomic status, ethnicity and comorbidity burden to be directly linked with the Danish National Quality Improvement. ESR2 will identify the local barriers and solutions to monitor the measure overtime and to implement this directly in clinical practice. Novel regional practices established in Italy (DEP, SSSA) with the performance evaluation dashboard will contribute to sharpen regional measurements in Denmark. ESR2 will test the - in Denmark- developed and validated composite measures in the Italian regional healthcare system. Project 1.3 (Task 1.3): Composite measures for quality of health care for patients with chronic conditions: are we comparing apples and pears? (AUH). ESR3 will develop and evaluate composite measures of the quality of care for patients with stroke, heart failure and chronic obstructive lung disease, and implement selected composite measures for clinical quality improvement to reach better outcomes for chronically ill patients. Different composite measures of quality of care will be computed and the effect of using different composite measures on hospital rankings will be determined. AUH/RKKP (partner) has direct access to Danish healthcare registries (for which registration by hospitals is mandatory) which ESR 2 and 3 will benefit from, combined with the experience of SSSA and DEP (partner). ESR3 will test the - in Denmark- developed and validated composite measures in the Italian regional healthcare system. Project 1.4 (Task 1.4): Optimising the use of routine health databases for personalised risk profiling of patients stimulating patient engagement (SURREY). ESR 4 will identify different risk profiles for people with diabetes to stimulate shared decision-making, using multivariate modelling of demographic, socio-economic, clinical and behavioural factors (particularly treatment adherence and patient engagement) to stratify the risk among the target population using databases of the Royal College of General Practitioners (England), Scottish Diabetes Network and Danish Quality Registry. The analysis will target lower extremity complications (peripheral arterial disease, amputations) and related outcomes e.g. ulcers/infections/cardiovascular. Studies will identify optimal data granularity to extend modelling across Europe in a privacy protected mode, in collaboration with the EUBIROD network. ESR4 will work in the performance areas patient engagement, person-centred integrated care, equity in access, and reaching better outcomes and will do the modelling work in the UK, and test the application of models in different European context incl. at least Danish, and German health care systems. Project 1.5 (Task 1.5): Measuring the performance of integrated health care systems (OPTIMEDIS). ESR 5 will utilize multiple data sources to assess the performance of (population-based) integrated health care systems pursuing the Triple Aim. Patient surveys, routine health insurance data (including cost data) and GP practice record extracts are available from OptiMedis for...
various regions in Germany. Advanced statistical methods, such as hierarchical regression analysis, will be applied to decompose the variance in integrated health care system performance associated with patient factors, provider factors, and health system characteristics. Longitudinal data will be used to identify the component parts of a patient pathway with the highest contribution to population health. The analysis will address patient-centred outcomes (PREMs, PROMs) but also approaches to tackle ineffective health spending by investigating factors associated with overutilization of health care services, based on our previous work. In addition, the application of advanced approaches to improve causal inference, such as synthetic control groups, will be investigated in order to isolate intervention effects (of the integrated care system) from secular trends. ESR5 will validate the approaches in integrated care models in the UK (and Germany to draw conclusions on how to reach better outcomes on a balanced set of performance indicators. ESR5 will have access (through OPTIMEDIS, UNIDUND, SURREY, and ImCom members) to leading national and international experts on the design, implementation and evaluation of integrated health care and obtain unique insight into what is one of the most advanced initiatives for a population-based integrated health care delivery system.

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Deliverables: D1.1 (D5) At least 3 scientific papers per ESR project in WP1 are expected to be reported in the midterm and final report. This will form the basis of the requirement for the doctorate award (ESR1-5)(M24,36,42);
D1.2- (D6) A report describing the methods and the practical experience with implementing disparity and composite measures in large-scale routine quality improvement work to support transferability to other health care systems (ESR2,3)(M42);
D1.3-A practical manual that helps stakeholders (e.g. policymakers, managers) to improve actionability of performance intelligence;
D1.4-Policy brief with recommendations on the performance assessment of integrated care systems.

D1.1 : At least 3 scientific papers per ESR project WP2 [42]
In WP1 are expected to be reported in the midterm and final report (ESRs1-5). This will form the basis of the requirement for the doctorate award. The delivery of these papers will be spread in M24, M36, M42.
D1.2 : Report describing methods [42]
Practical experience with implementing disparity and composite measures in large-scale routine quality improvement work to support transferability to other HC systems (ESR2,3)
D1.3 : A practical manual for stakeholders [42]
A practical manual that helps stakeholders (e.g. policymakers, managers) to improve actionability of performance intelligence (ESR1)
D1.4 : Policy brief with recommendations on the performance assessment of integrated care systems. [42]
Policy brief with recommendations on the performance assessment of integrated care systems.
D1.5 : Progress WP1 [24]
Describing the progress achieved during the first half of the lifetime of WP 1

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To interpret and translate healthcare performance indicators into actionable health system and services performance information and knowledge, and to integrate this into meaningful healthcare governance mechanisms to support the achievement of the Triple Aim.

Description of work and role of partners

**WP2 - Performance-based Healthcare Governance Mechanisms [Months: 1-48]**

**OPTIMEDIS**

The use of performance measurement and scientific evidence to steer health and health system outcomes has become a priority for governments, resulting in its widespread institutionalization (see current state of the art section). Extensive expertise, methods and tools exist within HealthPros Network (through SSSA, DEP (partner), IHPME (partner), AU, AMC, RIVM (partner), BCE, GEN (partner), OPTIMEDIS, FM (partner) to fill to current knowledge gap of translating performance measures into performance management and health system financing. Project 2.1 (Task 2.1): The role of managerial systems in promoting integrated care pathways (SSSA). ESR 6 will apply the knowledge gained by ESR 5. This research will lead to solutions for healthcare organizations to build up specific policies (such as bundled payments) to create a common accountability system able to increase shared responsibilities regarding complex patients’ outcomes. ESR6 will address application area(s) person-centred integrated services delivery; reaching better outcomes; ineffective health spending and waste. ESR 6 will follow different paths of chronic patients within the Tuscan Region (at FM, partner) and propose managerial strategies to boost the best practices, will examine Canadian approaches of integrated care and validate the in Italy developed methods in the Canadian healthcare systems (via IHPME). Project 2.2 (Task 2.2): Results-based (corporate) governance-tools for healthcare (AMC). This research will use different methods, some of which were developed at CIHI and IHPME (both partners). Surveys and interviews in the Netherlands and Ontario (using the contacts of AMC and CIHI/IHPME) will examine whether recently introduced results-based (corporate) governance tools approaches to performance measurement have persisted, been used by policy-makers and healthcare providers, and resulted in changes in policy and funding decisions. Through the network and working area of the RIVM (partner), ESR7 will be able to test the Canadian results in the Dutch healthcare system. Project 2.3 (Task 2.3): Consumer engagement in healthcare purchasing by insurers: Reducing waste, increasing value (BCE). ESR 8 will develop a business model for involving consumers in healthcare purchasing by insurers. Heterogeneity of consumer preferences will be also revealed with special attention to vulnerable populations. ESR8 will build on the results of ESR1 (WP1). Methods include literature review and interviews to identify input, process and outcome quality attributes, which determine patient preferences for healthcare services; and a survey based discrete choice experiment survey tool will be developed guided by the available experience at BCE to elicit preferences and trade-offs between identified service attributes. ESR8 will benefit from the expertise at AMC to identify quality attributes and performance indicators and how to develop the survey tool. GEN (partner) will support ESR8 to study how information on patient preferences can be used for the development of insurance products and contracting healthcare providers in order to achieve the best value for money for consumers and society. Project 2.4 (Task 2.4): Building performance intelligence in contract arrangements between insurers and health care providers (BCE). More specifically ESR9 will examine how to link performance indicators to payment mechanisms and contracting to achieve the triple aim, evaluate available insurance databases whether these are suitable to link performance indicators to financial mechanisms and identify the need for potential extensions. In additional, ESR 9 will model the potential middle and long term economic consequences of the use of performance indicators. The applied methods include a literature review on the use of performance indicators in financing mechanisms; evaluation of available insurance claim databases of a private insurance company, identification of need for additional data to achieve cost-effective performance improvement; and the development of a modeling tool which enables payers to assess the middle and long-term economic consequences (potential benefits and costs) of the use of performance indicators. ESR9 will benefit from the economic modelling expertise available at BCE, the available experience at OPTIMEDIS in using administrative databases for performance management, and the direct access to insurance databases through the partnership with GEN. The in Hungary/Germany developed, validated model will be tested for implementation at two private health insurance companies (partners) in Hungary.
### Participation per Partner

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### Description of deliverables

D2.1- At least 3 scientific papers per ESR project in WP2 are expected to be reported in the mid term and final report (ESRs 6-9). This will form the basis of the requirement for the doctorate award (M24, 36, 42); D2.2-a Handbook on the role of different managerial systems for improving the performance of integrated healthcare (ESR6) (M42); D2.3- Policy summary report on the value of Results-based tools in health care management (ESR7) (M42); D2.4- Business model for effectively involving patients in the financial decision making of health insurance funds (ESR8) (M42); D2.5-A policy summary report on best practices for linking financial incentives to healthcare performance at individual health care provider, institutional and regional level (ESR9) (M42). D2.1 : At least 3 scientific papers per ESR project WP3 [42] In WP2 are expected to be reported in the mid term and final report (ESRs 6-9). This will form the basis of the requirement for the doctorate award. The delivery of these papers will be spread in (M24, 36 and 42). D2.2 : Handbook on the role of different managerial systems [42] Handbook on the role of different managerial systems for improving the performance of integrated healthcare (ESR6) D2.3 : Policy summary report [42] Policy summary report on the value of Results-based tools in health care management (ESR7).
D2.4 : Business Plan [42]
Business model for effectively involving patients in the financial decision making of health insurance funds (ESR8)

D2.5 : A policy summary report [42]
A policy summary report on best practices for linking financial incentives to healthcare performance at individual health care provider, institutional and regional level (ESR9)

D2.6 : Progress WP 2 [24]
Describing the progress achieved during the first half of the lifetime of WP 2

### Schedule of relevant Milestones

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<td>MS9</td>
<td>PhD thesis: The role of managerial systems in promoting integrated care pathways</td>
<td>3 - OPTIMEDIS</td>
<td>48</td>
<td>Papers</td>
</tr>
<tr>
<td>MS10</td>
<td>PhD thesis: Results-based (corporate) governance-tools for healthcare</td>
<td>3 - OPTIMEDIS</td>
<td>48</td>
<td>Papers</td>
</tr>
<tr>
<td>MS11</td>
<td>PhD thesis: Patient engagement in healthcare purchasing by insurers: Reducing waste, increasing value</td>
<td>3 - OPTIMEDIS</td>
<td>48</td>
<td>Papers</td>
</tr>
</tbody>
</table>
WP3 - Utilization of Healthcare Performance Intelligence by different end-users [Months: 1-48]

**SSSA**

This WP will focus on the utilization of healthcare performance data and their impact on the overall system organization and on the behaviour of the stakeholders (policymakers, health professionals, patients and users). Project 3.1 (Task 3.1): Improving uptake of performance reports via nudges (OPTIMEDIS). ESR10 will examine the uptake of performance reports by healthcare providers via nudges applying a novel, cutting edge behavioural economics approach. A literature review on possible nudges from a behavioural economics perspective applied to the utilisation of health care performance data will be conducted. At OPTIMEDIS (also through its global network) the ESR will have access to leading national and international experts on the design, implementation and evaluation of integrated health care to provide unique insight into what is one of the most advanced initiatives for a population-based integrated health care delivery system. In addition, work at the AQUA Institute in Germany will allow ESR10 to obtain access to competences in national performance assessment. ESR10 will design nudges that can be integrated in existing or new performance reporting systems used in German regional population based integrated health care systems. In addition, the impact of such nudges on attitudes, behavioural intention and utilisation of health care performance data, and ultimately, on health system performance will be evaluated. ESR 10 will also appraise the wider application of nudges within the context of regional integrated health systems, and national health system performance assessment. Project 3.2 (Task 3.2): The impact of automated international comparisons using routine large scale databases to improve diabetes care (SURREY). ESR11 will implement and assess the impact of using an automated system of international comparisons in routine practice. The study will investigate the effect of targeted interventions and different organizational arrangements (improved adherence, frequency of visits, integration of primary/specialist care, etc). Analytical models will be trained on large scale databases e.g. the RCGP (England), the Scottish Diabetes Network and the Danish Quality Registry, and then rolled out in a common system distributed across the EUBIROD network to test the impact of performance intelligence.

Through the available data at AU/AUH and OPTIMEDIS, ESR11 will be able to test the application of the developed approach in Germany and Denmark. Project 3.3 (Task 3.3): Maximizing the impact of the benchmarking process on the regional health care system (SSSA). ESR12 will inquire the characteristics of the benchmarking process that, at regional and local level, can support health managers and decision makers in: (i) defining methods that can support the reduction of avoidable variation; (ii) defining reporting methods and supporting tools to make results actionable in terms of improvement strategies; (iii) how to use value for money for priority setting strategies; (iv) how to set challenging goals and targets at regional and local level; (v) experimenting techniques and tools to close the gap between theory and practice in promoting integrated care pathways. ESR12 will build on the work of ESR6 (WP2) to unravel the characteristics of the benchmarking process that maximize its impact on healthcare system improvement. Expected results: the researchers will design and carry out surveys, and will analyse data drawing on inferential statistics. Available data at SSSA, DEP (partner), CIHI and RKKP (AUH/partner, AU), FM (partner. Through IHPME (partner) and the Danish National Quality Improvement Program at AU, ESR 12 will be able to test the developed advancements in the benchmarking process in the Italian, the Canadian and the Danish healthcare systems. Project 3.4 (Task 3.4): Effective use of performance reporting in long-term care (AMC). ESR13 will identify the organizational characteristics associated with the use of performance reports in the long-term care sector in Canada and to infer lessons for European countries through an international comparison with the Netherlands and Italy. The researcher will determine whether organizational responses to performance reporting vary with for-profit status, the performance domains reported, and the degree of competition for patients. Methods will include interview and case study data, ESR 13 will examine the adequacy of performance outcomes in long-term care and perceptions of the importance of performance data in long-term care homes and its association with different organizational characteristics. In addition, an examination of whether organizational responses to performance data are related to competitiveness in the marketplace and the for-profit status of the organization will be performed. The researcher will consider which domains of performance reporting are likely
to trigger the greatest increase in quality improvement activity. This is a particularly important question in performance reporting given that there are relatively few measures of the technical quality of care and the decision-maker for hospital admission is relatively rarely the patient or provider and instead is the family who may value different aspects of performance than the patient. Surveys and interviews in a range of long-term care homes will be matched to document analysis and analysis of routinely collected data in several jurisdictions, benefiting from available data at CIHI (partner). Through the networks available at AMC/RIVM, IHMPME and CIHI ESR13 will collect field data through interviews in Canada and the Netherlands and complete the routinely collected data analysis which is held at CIHI and IHMPME and data collected at RIVM. SSSA (will facilitate the performance a comparative analysis of the Canadian and Dutch results with the Italian situation.

### Participation per Partner

<table>
<thead>
<tr>
<th>Partner number and short name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - AMC</td>
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<tr>
<td>2 - AUH</td>
<td></td>
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<tr>
<td>3 - OPTIMEDIS</td>
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<td>4 - SURREY</td>
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<td>5 - SSSA</td>
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<td>6 - BCE</td>
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### List of deliverables

<table>
<thead>
<tr>
<th>Deliverable Number</th>
<th>Deliverable Title</th>
<th>Lead beneficiary</th>
<th>Type</th>
<th>Dissemination level</th>
<th>Due Date (in months)</th>
</tr>
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<tbody>
<tr>
<td>D3.1</td>
<td>At least 3 scientific papers per ESR project in WP3</td>
<td>5 - SSSA</td>
<td>Report</td>
<td>Public</td>
<td>42</td>
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<tr>
<td>D3.2</td>
<td>Policy brief</td>
<td>5 - SSSA</td>
<td>Report</td>
<td>Public</td>
<td>42</td>
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<tr>
<td>D3.3</td>
<td>Progress WP 3</td>
<td>5 - SSSA</td>
<td>Report</td>
<td>Confidential, only for members of the consortium (including the Commission Services)</td>
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</table>

### Description of deliverables

D3.1- At least 3 scientific papers per ESR project in WP3 are expected to be reported in the mid term and final report (ESRs10-13). This will form the basis of the requirement for the doctorate award.

D3.2-Policy brief with recommendations on the role of ‘nudging’ for national health care performance assessment agencies (ESR10)

D3.1 : At least 3 scientific papers per ESR project in WP3 [42]  
At least 3 scientific papers per ESR project in WP3 are expected to be reported in the midterm and final report (ESRs10-13). This will form the basis of the requirement for doctorate award. The delivery of the publications will be spread in M24-36-42.

D3.2 : Policy brief [42]  
Policy brief with recommendations on the role of ‘nudging’ for national health care performance assessment agencies (ESR10).
D3.3 : Progress WP 3 [24]
Describing the progress achieved during the first half of the lifetime of WP 3

<table>
<thead>
<tr>
<th>Milestone number</th>
<th>Milestone title</th>
<th>Lead beneficiary</th>
<th>Due Date (in months)</th>
<th>Means of verification</th>
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<tbody>
<tr>
<td>MS13</td>
<td>PhD thesis: Improving uptake of performance reports via nudges</td>
<td>5 - SSSA</td>
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<td>Papers</td>
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<tr>
<td>MS14</td>
<td>PhD thesis: The impact of automated international comparisons using routine large scale databases to improve diabetes care</td>
<td>5 - SSSA</td>
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<td>Papers</td>
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<tr>
<td>MS15</td>
<td>PhD thesis: Reputation counts: putting benchmarking at work</td>
<td>5 - SSSA</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS16</td>
<td>PhD thesis: Effective use of performance reporting in long-term care</td>
<td>5 - SSSA</td>
<td>48</td>
<td>Papers</td>
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</tbody>
</table>
**Objectives**

To deploy an immersion community centered PhD training programme to deliver the first generation of Healthcare Performance Intelligence professionals in multidisciplinary, multi-sectoral innovative scientific, technical and transferable skills and competencies, who will inform and support the necessary changes in health systems in Europe.

**Description of work and role of partners**

**WP4 - Immersion community centered PhD training** [Months: 1-48]

BCE

To coordinate, support and assure (see also tables 1.2b,c for refined task distributions, and course lists): 1) development of the procedures and processes for implementing Immersion Community centered PhD training, 2) the development of 13 career development plans; 3) the development by beneficiaries/partners of 8 innovative workshops; 4) Implementing the Immersion Community 5) Organising ESR participation in the planned transferable skills courses as indicated in table 1.2b and table 1.2c) that each ESR follows the equivalence of 30 ECTS credit points in the training, scientific technical and complementary courses; 6) that each ESR is enrolled in a local doctoral graduate school programs; 7) encourage each ESR is to take part in summer schools and workshops in other institutions/countries and share their experience; 8) the organisation of ESR participation in all planned secondments and work visits (see table 1.4.1); 9) the organisation of SME question driven data hackathons 10) monitoring of ESR received day-to-day supervision by the assigned Supervisors.

**Participation per Partner**

**Partner number and short name**

1 - AMC  
2 - AUH  
3 - OPTIMEDIS  
4 - SURREY  
5 - SSSA  
6 - BCE

**List of deliverables**

<table>
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<tr>
<th>Deliverable Number</th>
<th>Deliverable Title</th>
<th>Lead beneficiary</th>
<th>Type</th>
<th>Dissemination level</th>
<th>Due Date (in months)</th>
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<tbody>
<tr>
<td>D4.1</td>
<td>Guide for Immersion Community Centered PhD training</td>
<td>6 - BCE</td>
<td>Report</td>
<td>Public</td>
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<tr>
<td>D4.2</td>
<td>Report and guide for SME driven data hackathons</td>
<td>6 - BCE</td>
<td>Report</td>
<td>Public</td>
<td>42</td>
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</table>
List of deliverables

<table>
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<th>Deliverable Number</th>
<th>Deliverable Title</th>
<th>Lead beneficiary</th>
<th>Type</th>
<th>Dissemination level</th>
<th>Due Date (in months)</th>
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<tr>
<td>D4.3</td>
<td>13 Career development plans approved by the ESRs and their Supervisors</td>
<td>6 - BCE</td>
<td>Report</td>
<td>Confidential, only for members of the consortium (including the Commission Services)</td>
<td>9</td>
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</tbody>
</table>

Description of deliverables

D4.1 Guide for Immersion Community Centered PhD training (M9);
D4.2 Report and guide for SME driven data hackathons (M42).
D4.3-13 Career development plans approved by the ESRs and their Supervisors (M9);
D4.4 Monitoring reports -All ESR have taken part in 8 innovative workshops (M7, 13, 19, 25, 31,37,42), fulfilled training in complementary skills (M42), and fulfilled training in scientific and technical skills (M42), and successfully completed their scheduled secondments and work visits (M42).

D4.1 : Guide for Immersion Community Centered PhD training [9]
Guide for Immersion Community Centered PhD training
D4.2 : Report and guide for SME driven data hackathons [42]
Report and guide for SME driven data hackathons
D4.3 : 13 Career development plans approved by the ESRs and their Supervisors [9]
13 Career development plans approved by the ESRs and their Supervisors

Schedule of relevant Milestones

<table>
<thead>
<tr>
<th>Milestone number</th>
<th>Milestone title</th>
<th>Lead beneficiary</th>
<th>Due Date (in months)</th>
<th>Means of verification</th>
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<tbody>
<tr>
<td>MS1</td>
<td>Kick-off meeting</td>
<td>1 - AMC</td>
<td>1</td>
<td>Successful organisation of kick-off meeting in which at least all Network members participated</td>
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<tr>
<td>MS2</td>
<td>ESRs fulfilled training in complementary/scientific/technical skill courses</td>
<td>6 - BCE</td>
<td>42</td>
<td>All 13 ESRs have fulfilled 30 ECTS training</td>
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<tr>
<td>MS3</td>
<td>ESRs have finalised their career plans</td>
<td>6 - BCE</td>
<td>48</td>
<td>13 ESRs completed all steps of career development plans</td>
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</table>
Work package number | WP5
---|---
Lead beneficiary | 1 - AMC

Work package title: Network management and reporting to European Commission

Start month | 1 End month | 48

Objectives

Network coordination and management

Description of work and role of partners

**WP5 - Network management and reporting to European Commission** [Months: 1-48]

AMC

1) Overall scientific, legal, financial and administrative management of the project; 2) Reporting to the commission in accordance to the final Grant agreement; 3) Periodic monitoring of the progress towards the training programme’s objectives and taking corrective measures as and when appropriate; 4) Monitor adherence towards the financial budgets; 5) Monitor and support recruitment of ESRs and developing a Human Resources Strategy overview report; 6) Monitor individual research project’s alignment, progress and quality of the supervisory teams; 6) Chairing the Supervisory Board meetings and acting as liaison with the Network Management Committee, the Work Package leaders, Quality Management Committee and the Administrative Office; 7) Acting as liaison between the Project and the Commission representatives on behalf of the consortium; 8) Management of the joint plan for the use and dissemination of knowledge including intellectual property rights; 9) Processing all technical, financial and administrative information into project periodic and final reports; 10) Regular progress reporting to Supervisory Board, and receiving regular progress reports from all Work Package leaders.

Participation per Partner

Partner number and short name | 1 - AMC
---|---

List of deliverables

<table>
<thead>
<tr>
<th>Deliverable Number</th>
<th>Deliverable Title</th>
<th>Lead beneficiary</th>
<th>Type</th>
<th>Dissemination level</th>
<th>Due Date (in months)</th>
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<tr>
<td>D5.1</td>
<td>Delivery of the Consortium Agreement</td>
<td>1 - AMC</td>
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<tr>
<td>D5.2</td>
<td>Supervisory Board of the network</td>
<td>1 - AMC</td>
<td>Other</td>
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<td>D5.3</td>
<td>Progress report</td>
<td>1 - AMC</td>
<td>Report</td>
<td>Public</td>
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<tr>
<td>D5.4</td>
<td>Joint meeting #1</td>
<td>1 - AMC</td>
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<td>Confidential, only for members of the consortium (including the Commission Services)</td>
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<td>D5.5</td>
<td>Joint meeting #2</td>
<td>1 - AMC</td>
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### List of deliverables

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<th>Type&lt;sup&gt;15&lt;/sup&gt;</th>
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<th>Due Date (in months)&lt;sup&gt;17&lt;/sup&gt;</th>
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<tr>
<td>D5.6</td>
<td>Joint meeting # 3</td>
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<td>D5.8</td>
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<td>Confidential, only for members of the consortium (including the Commission Services)</td>
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<td>D5.12</td>
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<td>D5.13</td>
<td>Supervisory Board meeting # 2</td>
<td>1 - AMC</td>
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<td>D5.14</td>
<td>Supervisory Board meeting # 3</td>
<td>1 - AMC</td>
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<td>Confidential, only for members of the consortium (including the Commission Services)</td>
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### List of deliverables

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<tr>
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<th>Lead beneficiary</th>
<th>Type</th>
<th>Dissemination level</th>
<th>Due Date (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D5.15</td>
<td>Supervisory Board meeting # 4</td>
<td>1 - AMC</td>
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<td>Confidential, only for members of the consortium (including the Commission Services)</td>
<td>37</td>
</tr>
</tbody>
</table>

### Description of deliverables

D5.1 Human Resources Strategy overview report (M6)
D5.2-Recruitment report which describes how all 13 ESRs were recruited (M6);
D5.3-8 Joint meetings (M1,7,13,19,25,31,37,42);
D5.4-Midterm progress reports on the ESRs (M26);
D5.5- 4 Supervisory Board meetings (M1,13,25,37);
D5.6 Monthly meetings (by phone/skype) held by the Network Management Committee (M1- 48);
D5.7-Periodic reports and final report to EC (Month: as indicated in the Grant Agreement with the EC).

Obligatory deliverables:
Recruitment report
Progress report
Delivery of consortium agreement
D5.1 : Delivery of the Consortium Agreement [2]
Consortium Agreement (CA) depicting internal governance procedure, the CA includes clauses on intellectual property and financial management.
D5.2 : Supervisory Board of the network [2]
Implementation of the board.
D5.3 : Progress report [13]
Progress report to the EC.
D5.4 : Joint meeting #1 [1]
Joint meeting of the Network
D5.5 : Joint meeting # 2 [7]
Joint meeting of the Network
D5.6 : Joint meeting # 3 [13]
Joint meeting of the Network
D5.7 : Joint meeting # 4 [19]
Joint meeting of the Network
D5.8 : Joint meeting # 5 [25]
Joint meeting of the Network
D5.9 : Joint meeting # 6 [31]
Joint meeting of the Network
D5.10 : Joint meeting # 7 [37]
Joint meeting of the Network
D5.11 : Joint meeting # 8 [42]
Joint meeting of the Network
D5.12 : Supervisory Board meeting # 1 [1]
Supervisory Board meetings
D5.13 : Supervisory Board meeting # 2 [13]
Supervisory Board meetings
D5.14 : Supervisory Board meeting # 3 [25]
Supervisory Board meetings
D5.15 : Supervisory Board meeting # 4 [37]
Supervisory Board meetings

<table>
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<th>Schedule of relevant Milestones</th>
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<tbody>
<tr>
<td><strong>Milestone number</strong></td>
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<td>-----------------------</td>
</tr>
<tr>
<td>MS1</td>
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<td>MS17</td>
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<td>MS18</td>
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<tr>
<td>Work package title</td>
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<td>Start month</td>
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Objectives

To communicate the findings of the project to end-users and to disseminate and exploit the outcomes of the project.

**Description of work and role of partners**

**WP6 - Dissemination and Exploitation of results** [Months: 1-48]

**AUH**

1) Draft, refine, regular updating and distribution of the project Knowledge Communication, Dissemination and Sustainability plan (incl. communication instruments to facilitate public engagement, communication and dissemination of the Networks results). 2) Make sure that all ESRs, beneficiaries and partner organisations disseminate knowledge according to the objectives and strategies defined in the plan. 2) Mediation in case of conflicts related to dissemination between partners. 3) Coordination of all dissemination activities (supported by AMC as Network Coordinator). 3) Disseminate methods, tools, best practices, and policies developed by the Network. 4) Convene regular knowledge engagement expert conferences to raise awareness, engage key stakeholders and disseminate the results of the Network to a wide audience. 5) Develop and maintain an open access project website, regularly update the Network’s LinkedIn, ResearchGATE pages, and actively use social media (i.e. twitter) to disseminate project news; 5) Produce and disseminate a four monthly Newsletter with interesting facts, findings and developments of the Network, which will be co-authored by all ESRs, beneficiaries and partner organisations; 6) Make sure that the HealthPros courses related to scientific, technical and complementary skills are open for participation from a broader audience; 7) Produce and disseminate a movie on the newly trained professionals; 8) Support ESRs in the organisations of webinars and public debates; 9) Organise a bi- yearly HealthPros Ambassadors competition; 10) Organise Immersion Community meetings and develop and maintain an Online Immersion Community Platform; 11) Organise the final conference on ‘The transferability of HealthPros’ findings to High, Middle and Low-income healthcare systems’ to present and discuss the transferability of the research findings with all key stakeholders; 12) Monitor and stimulate that all ESRs submit their articles for publication to scientific journals and present their work at internationals conferences, policy dialogues and international meetings. 13) Support ESRs in publishing research results at Open Access Platforms such as the Health Systems and Policy Monitor, and the Health Services Research Europe Platform.

**Participation per Partner**

<table>
<thead>
<tr>
<th>Partner number and short name</th>
<th>1 - AMC</th>
<th>2 - AUH</th>
<th>3 - OPTIMEDIS</th>
<th>4 - SURREY</th>
<th>5 - SSSA</th>
<th>6 - BCE</th>
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<th>Deliverable Title</th>
<th>Lead beneficiary</th>
<th>Type(^{15})</th>
<th>Dissemination level(^{16})</th>
<th>Due Date (in months)(^{17})</th>
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<tbody>
<tr>
<td>D6.1</td>
<td>Refined Knowledge Communication, Dissemination and Sustainability plan</td>
<td>2 - AUH</td>
<td>Report</td>
<td>Public</td>
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<td>D6.2</td>
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<td>2 - AUH</td>
<td>Websites, patents filling, etc.</td>
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<td>D6.3</td>
<td>Disseminate Video on HealthPros Professionals</td>
<td>2 - AUH</td>
<td>Websites, patents filling, etc.</td>
<td>Public</td>
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<tr>
<td>D6.4</td>
<td>Knowledge engagement expert conference # 1 with invited speakers</td>
<td>2 - AUH</td>
<td>Other</td>
<td>Public</td>
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<tr>
<td>D6.5</td>
<td>Online learning Platform</td>
<td>2 - AUH</td>
<td>Websites, patents filling, etc.</td>
<td>Public</td>
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<td>D6.6</td>
<td>Final Conference ‘The transferability of HealthPros’ findings to HML-income HC systems’</td>
<td>2 - AUH</td>
<td>Other</td>
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<td>48</td>
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<tr>
<td>D6.7</td>
<td>Knowledge engagement expert conference # 2 with invited speakers</td>
<td>2 - AUH</td>
<td>Other</td>
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<td>D6.8</td>
<td>Knowledge engagement expert conference # 3 with invited speakers</td>
<td>2 - AUH</td>
<td>Other</td>
<td>Public</td>
<td>37</td>
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<tr>
<td>D6.9</td>
<td>Dissemination Report I</td>
<td>2 - AUH</td>
<td>Websites, patents filling, etc.</td>
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<tr>
<td>D6.10</td>
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<td>2 - AUH</td>
<td>Websites, patents filling, etc.</td>
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<td>36</td>
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<tr>
<td>D6.11</td>
<td>Dissemination report III</td>
<td>2 - AUH</td>
<td>Websites, patents filling, etc.</td>
<td>Public</td>
<td>48</td>
</tr>
</tbody>
</table>

**Description of deliverables**

D6.1-Refined Knowledge Communication, Dissemination and Sustainability plan (M6);
D6.2-Project website (incl. LinkedIn/RESEARCHgate page, activate twitter account, Immersion Community Platform) (M3);
D6.3- Disseminate Movie on HealthPros Professionals (M30);
D6.4- 13 Webinars organised by ESRs (M9,12,15,18,21,24,27,30,33,36,39,42,45);
D6.5- Produce regular Newsletter (Every 4 months starting from M3);
D6.6- Knowledge engagement expert conferences with invited speakers; (M19,25,37); D5.7- Final Conference on ‘The transferability of HealthPros’ findings to High, Middle and Low-income healthcare systems’ (M48)
D6.1 : Refined Knowledge Communication, Dissemination and Sustainability plan [6]
Refined Knowledge Communication, Dissemination and Sustainability plan
D6.2 : Project website [3]
Project website (incl. LinkedIn/ResearchGATE page, activate twitter account, Immersion Community Platform)
D6.3 : Disseminate Video on HealthPros Professionals [30]
Disseminate Video on HealthPros Professionals
D6.4 : Knowledge engagement expert conference # 1 with invited speakers [19]
Knowledge engagement expert conference # 1 with invited speakers
D6.5 : Online learning Platform [6]
Online learning Platform
D6.6 : Final Conference ‘The transferability of HealthPros’ findings to HML-income HC systems’ [48]
Final Conference ‘The transferability of HealthPros’ findings to HML-income HC systems’
D6.7 : Knowledge engagement expert conference # 2 with invited speakers [25]
Knowledge engagement expert conference # 2 with invited speakers
D6.8 : Knowledge engagement expert conference # 3 with invited speakers [37]
Knowledge engagement expert conference # 3 with invited speakers
D6.9 : Dissemination Report I [24]
8 Hackathons (data analysis) meetings (online) Starting M13 (every 3 mnts); Produce regular Newsletter starting on M3 (every 4 mnts); 13 Webinars organised by ESRs starting on M9 (every 3mnts).
D6.10 : Dissemination report II [36]
8 Hackathons (data analysis) meetings (online) Starting M13 (every 3 mnts); Produce regular Newsletter starting on M3 (every 4 mnts); 13 Webinars organised by ESRs starting on M9 (every 3mnts).
D6.11 : Dissemination report III [48]
8 Hackathons (data analysis) meetings (online) Starting M13 (every 3 mnts); Produce regular Newsletter starting on M3 (every 4 mnts); 13 Webinars organised by ESRs starting on M9 (every 3mnts).

<table>
<thead>
<tr>
<th>Schedule of relevant Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Milestone number</strong></td>
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<tr>
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### Work package number
<table>
<thead>
<tr>
<th>Lead beneficiary</th>
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</thead>
<tbody>
<tr>
<td>WP7</td>
</tr>
<tr>
<td>1 - AMC</td>
</tr>
</tbody>
</table>

### Work package title
- Ethics requirements

### Start month
- 1

### End month
- 48

---

#### Objectives

The objective is to ensure compliance with the 'ethics requirements' set out in this work package.

#### Description of work and role of partners

**WP7 - Ethics requirements** [Months: 1-48]

AMC

This work package sets out the 'ethics requirements' that the project must comply with.

---

#### List of deliverables

<table>
<thead>
<tr>
<th>Deliverable Number</th>
<th>Deliverable Title</th>
<th>Lead beneficiary</th>
<th>Type</th>
<th>Dissemination level</th>
<th>Due Date (in months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D7.1</td>
<td>POPD - Requirement No. 1</td>
<td>1 - AMC</td>
<td>Ethics</td>
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<td>12</td>
</tr>
<tr>
<td>D7.2</td>
<td>GEN - Requirement No. 2</td>
<td>1 - AMC</td>
<td>Ethics</td>
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<td>D7.3</td>
<td>POPD - Requirement No. 3</td>
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<td>Ethics</td>
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<tr>
<td>D7.4</td>
<td>NEC - Requirement No. 4</td>
<td>1 - AMC</td>
<td>Ethics</td>
<td>Confidential, only for members of the consortium (including the Commission Services)</td>
<td>12</td>
</tr>
</tbody>
</table>

---

#### Description of deliverables

The 'ethics requirements' that the project must comply with are included as deliverables in this work package.

**D7.1 : POPD - Requirement No. 1 [12]**

Applicant must clarify whether the project involves human research participants. If so, this must be addressed in the ethical self-assessment, and section 4 must be revised accordingly. Furthermore, detailed information on the informed consent procedures that will be implemented in regard to the collection, storage and protection of personal data must be submitted on request.

**D7.2 : GEN - Requirement No. 2 [12]**

...
In regards to the collaboration with Canada as a third country, the applicants must confirm that the project could have been legally carried out in an EU country and clarify whether the collaboration involves transfer of personal data from EU-partners to Canada. If so, this must be addressed in the ethical self-assessment.

D7.3 : POPD - Requirement No. 3 [12]
If the position of a Data Protection Officer is established, their opinion/confirmation that all data collection and processing will be carried according to EU and national legislation, should be submitted upon request. Clarification on the nature of the claims data used from Hungary (sensitive?) should be provided.

D7.4 : NEC - Requirement No. 4 [12]
The applicant must confirm that the ethical standards and guidelines of Horizon2020 will be rigorously applied, regardless of the country in which the research is carried out. The applicant must confirm that the research performed outside the EU is compatible with the Union, national and international legislation and could have been legally conducted in one of the EU Member States.

<table>
<thead>
<tr>
<th>Schedule of relevant Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestone number</td>
</tr>
<tr>
<td>18</td>
</tr>
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</table>

### 1.3.4. WT4 List of milestones

<table>
<thead>
<tr>
<th>Milestone number</th>
<th>Milestone title</th>
<th>WP number</th>
<th>Lead beneficiary</th>
<th>Due Date (in months)</th>
<th>Means of verification</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS1</td>
<td>Kick-off meeting</td>
<td>WP4, WP5</td>
<td>1 - AMC</td>
<td>1</td>
<td>Successful organisation of kick-off meeting in which at least all Network members participated</td>
</tr>
<tr>
<td>MS2</td>
<td>ESRs fulfilled training in complementary/ scientific/technical skill courses</td>
<td>WP4</td>
<td>6 - BCE</td>
<td>42</td>
<td>All 13 ESRs have fulfilled 30 ECTS training</td>
</tr>
<tr>
<td>MS3</td>
<td>ESRs have finalised their career plans</td>
<td>WP4</td>
<td>6 - BCE</td>
<td>48</td>
<td>13 ESRs completed all steps of career development plans</td>
</tr>
<tr>
<td>MS4</td>
<td>PhD thesis: Transferability of actionable performance indicators</td>
<td>WP1</td>
<td>4 - SURREY</td>
<td>48</td>
<td>Papers</td>
</tr>
<tr>
<td>MS5</td>
<td>PhD thesis: Quality of health care for vulnerable populations: closing disparity gaps</td>
<td>WP1</td>
<td>4 - SURREY</td>
<td>48</td>
<td>Papers</td>
</tr>
<tr>
<td>MS6</td>
<td>PhD thesis: Composite measures for quality of health care of chronically ill patients</td>
<td>WP1</td>
<td>4 - SURREY</td>
<td>48</td>
<td>papers</td>
</tr>
<tr>
<td>MS7</td>
<td>PhD thesis: Optimising the use of routine health databases for personalised risk profiling of patients stimulating patient engagement</td>
<td>WP1</td>
<td>4 - SURREY</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS8</td>
<td>PhD thesis: Measuring the performance of integrated health care systems</td>
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<tr>
<td>MS9</td>
<td>PhD thesis: The role of managerial systems in promoting integrated care pathways</td>
<td>WP2</td>
<td>3 - OPTIMEDIS</td>
<td>48</td>
<td>Papers</td>
</tr>
<tr>
<td>MS10</td>
<td>PhD thesis: Results-based (corporate) governance-tools for healthcare</td>
<td>WP2</td>
<td>3 - OPTIMEDIS</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS11</td>
<td>PhD thesis: Patient engagement in healthcare purchasing by insurers: Reducing waste, increasing value</td>
<td>WP2</td>
<td>3 - OPTIMEDIS</td>
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<td>Papers</td>
</tr>
<tr>
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<td>Milestone title</td>
<td>WP number</td>
<td>Lead beneficiary</td>
<td>Due Date (in months)</td>
<td>Means of verification</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>------------------</td>
<td>----------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>MS12</td>
<td>PhD thesis: Building performance intelligence in contract arrangements between insurers and health care providers</td>
<td>3 - OPTIMEDIS</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS13</td>
<td>PhD thesis: Improving uptake of performance reports via nudges</td>
<td>WP3</td>
<td>5 - SSSA</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS14</td>
<td>PhD thesis: The impact of automated international comparisons using routine large scale databases to improve diabetes care</td>
<td>WP3</td>
<td>5 - SSSA</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS15</td>
<td>PhD thesis: Reputation counts: putting benchmarking at work</td>
<td>WP3</td>
<td>5 - SSSA</td>
<td>48</td>
<td>Papers</td>
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<tr>
<td>MS16</td>
<td>PhD thesis: Effective use of performance reporting in long-term care</td>
<td>WP3</td>
<td>5 - SSSA</td>
<td>48</td>
<td>Papers</td>
</tr>
<tr>
<td>MS17</td>
<td>Planned recruitments completed</td>
<td>WP5</td>
<td>1 - AMC</td>
<td>12</td>
<td>Planned recruitments of 13 ESRs completed</td>
</tr>
<tr>
<td>MS18</td>
<td>Project Check</td>
<td>WP5</td>
<td>1 - AMC</td>
<td>15</td>
<td>Project Check: meeting between REA and consortium</td>
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</table>
### 1.3.5. WT5 Critical Implementation risks and mitigation actions

<table>
<thead>
<tr>
<th>Risk number</th>
<th>Description of risk</th>
<th>WP Number</th>
<th>Proposed risk-mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turn-over of work staff due to network’s relatively long duration</td>
<td>WP1, WP2, WP3, WP4, WP5, WP6</td>
<td>Systematic monitoring and communication on the status and progress of staff in all participating organisations will effectively identify needs for staff replacement. If needed adapt the ESR projects together with the Supervisory team to allow the ESR to complete the project.</td>
</tr>
<tr>
<td>2</td>
<td>Delay in recruitment of suitable ESR</td>
<td>WP5</td>
<td>Apply a stepped recruitment strategy that has proven to be successful with many other ETNs (see section ‘recruitment strategy’).</td>
</tr>
<tr>
<td>3</td>
<td>Partial failure to collect data according to plan due to issues at the data source</td>
<td>WP1, WP2, WP3</td>
<td>All ESRs will be supervised by highly experienced researchers, whom have years of experience to tackle data collection struggles and are part of many networks to obtain easy access to alternative data sources as deemed necessary</td>
</tr>
<tr>
<td>4</td>
<td>Interdependencies</td>
<td>WP1, WP2, WP3</td>
<td>HealthPros is designed without dependences between the ESRs projects. All ESRs only benefit from each other experiences and methods to conduct their research. The rotating buddy system (see section 1.3.1) where ESRs network with each other, regular and mandatory progress reporting strategies will be in place.</td>
</tr>
<tr>
<td>5</td>
<td>Insufficient support to test developed concepts/models in other countries</td>
<td>WP1, WP2, WP3</td>
<td>The validation and (cross-country) testing will take place at beneficiaries and partner organization embedded in the network that have robust and secure infrastructure and obey national data legislation.</td>
</tr>
<tr>
<td>6</td>
<td>Withdrawal of ESRs</td>
<td>WP1, WP2, WP3</td>
<td>The SB will seek to replace the ESR with a newly recruited fellow if this is early in the project plan. Later, transfer essential work to other ESRs or partners.</td>
</tr>
<tr>
<td>7</td>
<td>Shortage in funding to meet local doctoral requirements</td>
<td>WP1, WP2, WP3, WP4, WP5, WP6</td>
<td>All involved local doctoral programs (except AMC’s) have a 3-year requirement to obtain the PhD degree. On November 23 2015, the Board of AMC decided the 4th yr of ETN AMC PhD-candidates will be co-funded by AMC, based on the regular PhD salary. In addition, Budget calculations have been performed to assure the financial feasibility of the Network.</td>
</tr>
<tr>
<td>8</td>
<td>Lack of participation of ImCom members</td>
<td>WP4</td>
<td>A comprehensive list of ImCom members is committed to the Network. The minimum nr. of members per country is set at 5; a realistic size assuring high quality interactions.</td>
</tr>
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</table>
## 1.3.6. WT6 Summary of project effort contribution

<table>
<thead>
<tr>
<th></th>
<th>WP1</th>
<th>WP2</th>
<th>WP3</th>
<th>WP4</th>
<th>WP5</th>
<th>WP6</th>
<th>WP7</th>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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</tr>
<tr>
<td>2 - AUH</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3 - OPTIMEDIS</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>4 - SURREY</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>5 - SSSA</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>6 - BCE</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
1.3.7. WT7 Tentative schedule of project reviews

No project reviews indicated
1. Project number

The project number has been assigned by the Commission as the unique identifier for your project. It cannot be changed. The project number should appear on each page of the grant agreement preparation documents (part A and part B) to prevent errors during its handling.

2. Project acronym

Use the project acronym as given in the submitted proposal. It can generally not be changed. The same acronym should appear on each page of the grant agreement preparation documents (part A and part B) to prevent errors during its handling.

3. Project title

Use the title (preferably no longer than 200 characters) as indicated in the submitted proposal. Minor corrections are possible if agreed during the preparation of the grant agreement.

4. Starting date

Unless a specific (fixed) starting date is duly justified and agreed upon during the preparation of the Grant Agreement, the project will start on the first day of the month following the entry into force of the Grant Agreement (NB: entry into force = signature by the Commission). Please note that if a fixed starting date is used, you will be required to provide a written justification.

5. Duration

Insert the duration of the project in full months.

6. Call (part) identifier

The Call (part) identifier is the reference number given in the call or part of the call you were addressing, as indicated in the publication of the call in the Official Journal of the European Union. You have to use the identifier given by the Commission in the letter inviting to prepare the grant agreement.

7. Abstract

8. Project Entry Month

The month at which the participant joined the consortium, month 1 marking the start date of the project, and all other start dates being relative to this start date.

9. Work Package number

Work package number: WP1, WP2, WP3, ..., WPn

10. Lead beneficiary

This must be one of the beneficiaries in the grant (not a third party) - Number of the beneficiary leading the work in this work package

11. Person-months per work package

The total number of person-months allocated to each work package.

12. Start month

Relative start date for the work in the specific work packages, month 1 marking the start date of the project, and all other start dates being relative to this start date.

13. End month

Relative end date, month 1 marking the start date of the project, and all end dates being relative to this start date.

14. Deliverable number

Deliverable numbers: D1 - Dn

15. Type

Please indicate the type of the deliverable using one of the following codes:

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>Document, report</td>
</tr>
<tr>
<td>DEM</td>
<td>Demonstrator, pilot, prototype</td>
</tr>
<tr>
<td>DEC</td>
<td>Websites, patent fillings, videos, etc.</td>
</tr>
<tr>
<td>OTHER</td>
<td></td>
</tr>
<tr>
<td>ETHICS</td>
<td>Ethics requirement</td>
</tr>
<tr>
<td>ORDP</td>
<td>Open Research Data Pilot</td>
</tr>
</tbody>
</table>

16. Dissemination level
Please indicate the dissemination level using one of the following codes:
- PU Public
- CO Confidential, only for members of the consortium (including the Commission Services)
- EU-RES Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)
- EU-CON Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)

17. Delivery date for Deliverable
Month in which the deliverables will be available, month 1 marking the start date of the project, and all delivery dates being relative to this start date.

18. Milestone number
Milestone number: MS1, MS2, ..., MSn

19. Review number
Review number: RV1, RV2, ..., RVn

20. Installation Number
Number progressively the installations of a same infrastructure. An installation is a part of an infrastructure that could be used independently from the rest.

21. Installation country
Code of the country where the installation is located or IO if the access provider (the beneficiary or linked third party) is an international organization, an ERIC or a similar legal entity.

22. Type of access
- VA if virtual access,
- TA-uc if trans-national access with access costs declared on the basis of unit cost,
- TA-ac if trans-national access with access costs declared as actual costs, and
- TA-cb if trans-national access with access costs declared as a combination of actual costs and costs on the basis of unit cost.

23. Access costs
Cost of the access provided under the project. For virtual access fill only the second column. For trans-national access fill one of the two columns or both according to the way access costs are declared. Trans-national access costs on the basis of unit cost will result from the unit cost by the quantity of access to be provided.
Marie Skłodowska-Curie Actions (MSCA) Innovative Training Networks (ITN) H2020-MSCA-ITN-2017

Annex 1 to the Grant Agreement (Description of the Action) Part B HealthPros – Project nr. 765141
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- Fellow’s individual projects

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- Network organisation and management structure
- Supervisory Board
- Recruitment strategy
- Progress monitoring and evaluation of individual projects
- Intellectual Property Rights (IPR)
- Gender aspects

3.3 Appropriateness of the infrastructure of the participating organisations

3.4 Competences, experience and complementarity of the participating organisations and their commitment to the programme

- Consortium composition and exploitation of partners’ complementarities
- Commitment of beneficiaries and partner organisations to the programme

4. GANTT Chart

5. Ethics Aspects

5.1 HealthPros: General Ethical Considerations

5.2 Access of data

5.3 Data Protection

5.4 Third Countries requirements

5.5 Ethical issues in relation to gender and research integrity
## List of Participants

<table>
<thead>
<tr>
<th>Consortium Member</th>
<th>Legal Entity Short Name</th>
<th>Academic</th>
<th>Non-academic</th>
<th>Awards Doctoral Degrees</th>
<th>Country</th>
<th>Dept./ Division / Laboratory</th>
<th>Scientist-in-Charge</th>
<th>Role of Partner Organisation</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic Medical Centre, university of Amsterdam</td>
<td>AMC</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Netherlands</td>
<td>Dept. of Social Medicine</td>
<td>Prof. Dr. Niek Klazinga MD</td>
<td>Healthcare performance measurement (Academic) sector</td>
<td></td>
</tr>
<tr>
<td>2. North Denmark Region, Aalborg University Hospital</td>
<td>AUH</td>
<td>Ω</td>
<td>X</td>
<td>X</td>
<td>Denmark</td>
<td>Psychiatry</td>
<td>Prof. Dr. Jan Mainz MD</td>
<td>Healthcare performance governance and data analytics (Public) sector</td>
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<tr>
<td>3. OptiMedis AG</td>
<td>OPTIMEDIS</td>
<td>€</td>
<td>€</td>
<td>€</td>
<td>Germany</td>
<td>Research &amp; Development</td>
<td>Dr. Oliver Groene</td>
<td>Healthcare performance governance and Data Analytics (Private) Sector</td>
<td></td>
</tr>
<tr>
<td>4. University of Surrey</td>
<td>SURREY</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>United Kingdom</td>
<td>Faculty of Health and Medical Sciences</td>
<td>Prof. Dr. S. de Lusignan MD</td>
<td>Health systems &amp; policy (Academic) Sector</td>
<td></td>
</tr>
<tr>
<td>5. Scuola Superiore di Studi Universitari e di Perfezionamento Sant' Anna</td>
<td>SSSA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Italy</td>
<td>MeS Lab- Institute of Management</td>
<td>Prof. Dr. Sabina Nuti</td>
<td>Healthcare performance governance and utilisation (Academic) sector</td>
<td></td>
</tr>
<tr>
<td>6. Corvinus University of Budapest</td>
<td>BCE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Hungary</td>
<td>Department of Health Economics</td>
<td>Prof. Dr. László Gulácsi MD</td>
<td>Healthcare performance governance and utilisation (Academic) sector</td>
<td></td>
</tr>
</tbody>
</table>

### Partner Organisations

| 1. National institute for Public Health and the Environment, ministry of Health, Welfare and Sports | RIVM | Ω | Ω | Ω | Netherlands | Dept. Public health and health services | Dr. Michael van den Berg | Hosting secondments and work visits, co-supervising researchers, contributing to training | Health care policy & Healthcare performance measurement (Public) Sector |
| 2. Aarhus University | AU | X | X | X | Denmark | Department of Clinical Epidemiology | Assoc. Prof. | Hosting | Healthcare |

1. Ω = public non-academic institute; € = private non-academic institute
2. Aalborg University Hospital – Psychiatry is a part of North Denmark Region. North Denmark Region is a public non-academic institution while Aalborg University Hospital – Psychiatry is a public academic institution.
3. ESRs 5 and 10 who receive primary supervision from private institute OPTIMEDIS will be enrolled in the doctoral program of HCHE; see Table 1.2a for further details
4. Aarhus University, Department of Clinical Epidemiology is part of the Danish Regions’ Clinical Quality Development Program, which is a non-academic entity.
<table>
<thead>
<tr>
<th>[Integrated part of Regionernes Kliniske Kvalitetsudviklingsprogram]</th>
<th>k</th>
<th>Clinical Epidemiology, Faculty of Health</th>
<th>Dr. Søren Paaske Johnsen, MD</th>
<th>secondsments and work visits</th>
<th>performance governance, Data analysis (Public non-academic &amp; academic) Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Hamburg Center for Health Economics</td>
<td>HCHE</td>
<td>X</td>
<td>Germany Dept. of Health Care Management</td>
<td>Prof. Dr. Jonas Schreyögg</td>
<td>Awards doctoral degree, provides training.</td>
</tr>
<tr>
<td>4. University of Dundee</td>
<td>UNIDUND</td>
<td>X</td>
<td>United Kingdom Clinical Research Centre, Ninewells Hospital and Medical School</td>
<td>Dr. Deborah J Wake</td>
<td>Hosting secondments &amp; work visits, co-supervising researchers, contributing to training</td>
</tr>
<tr>
<td>5. The Royal College of General Practitioners and Surveillance Centre</td>
<td>RCGP RSC</td>
<td>Ω</td>
<td>United Kingdom</td>
<td>Prof. Dr. S. de Lusignan MD</td>
<td>Hosting secondments and work visits</td>
</tr>
<tr>
<td>6. Department of Epidemiology Lazio Regional Health Service ASLRM-E</td>
<td>DEP</td>
<td>Ω</td>
<td>Italy</td>
<td>Dr Marina Davoli</td>
<td>Hosting secondments and work visits</td>
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<tr>
<td>7. Canadian Institute for Health Information</td>
<td>CIHI</td>
<td>Ω</td>
<td>Canada</td>
<td>Kathleen Morris MBA</td>
<td>Hosting secondments and work visits, co-supervising researchers, contributing to training</td>
</tr>
<tr>
<td>8. University of Toronto</td>
<td>IHPME</td>
<td>X</td>
<td>Canada</td>
<td>Institute of Health Policy, Management &amp; Evaluation</td>
<td>Prof. Dr. Adalsteinn Brown</td>
</tr>
<tr>
<td>9. Generali Insurance Company (Generali Biztosító Zrt.)</td>
<td>GEN</td>
<td>€</td>
<td>Hungary</td>
<td>Zoltán Paál</td>
<td>Hosting secondments and work visits</td>
</tr>
<tr>
<td>10. Institute for Applied Quality Improvement and Research in Health Care</td>
<td>AQUA</td>
<td>€</td>
<td>Germany</td>
<td>Prof. Dr. Joachim Szecsenyi</td>
<td>Hosting secondments and work visits</td>
</tr>
<tr>
<td>11. Fondazione Toscana Gabriele Monasterio</td>
<td>FM</td>
<td>Ω</td>
<td>Italy</td>
<td>Luciano Ciucci</td>
<td>Hosting secondments and work visits</td>
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### Data for Non-Academic Beneficiaries

<table>
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<tr>
<th>Name</th>
<th>Research Premises Location</th>
<th>Type of R&amp;D activities</th>
<th>No. of full-time employees</th>
<th>No. of employees in R&amp;D</th>
<th>Web site</th>
<th>Annual turnover (in Euro)</th>
<th>Enterprise status</th>
<th>SME status</th>
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<tr>
<td>AUH (Ω)</td>
<td>Aalborg, Denmark</td>
<td>Health Services Research, Quality Improvement. Clinical &amp; registry R&amp;D on mortality and drug safety. Research on patient involvement.</td>
<td>1120</td>
<td>52</td>
<td><a href="http://psykiatri.nn.dk/">http://psykiatri.nn.dk/</a></td>
<td>€ 88 Mill</td>
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<td>OPTIMEDIS (€)</td>
<td>Hamburg, Germany</td>
<td>Develops, manages regionally integrated healthcare systems; analyzes healthcare data, conducts real-life healthcare research</td>
<td>21</td>
<td>6</td>
<td><a href="http://optimedis.com/">http://optimedis.com/</a></td>
<td>€ 1.2 Mill</td>
<td>Yes</td>
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<td>AQUA (€)</td>
<td>Göttingen</td>
<td>Developing and Implementing solutions for Quality Improvement in Health Care</td>
<td>90</td>
<td>80</td>
<td><a href="http://www.aqua-institut.de">http://www.aqua-institut.de</a></td>
<td>€ 10 Mill</td>
<td>Yes</td>
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### Declarations

<table>
<thead>
<tr>
<th>Name</th>
<th>Nature of inter-relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niek Klazinga (AMC)</td>
<td>Prof. at AMC (NL), visiting prof. at Corvinus University (HU) and visiting prof. at the University of Toronto (CAN).</td>
</tr>
<tr>
<td>Jan Mainz (AUH, Ω)</td>
<td>Prof. at Psychiatry - Aalborg University Hospital and adjunct prof. at University of Southern Denmark. Executive deputy director, Psychiatry, Region North Denmark.</td>
</tr>
<tr>
<td>Simon de Lusignan (Surrey)</td>
<td>Prof. at SURREY and Medical Director of the RCGP RSC. Both institutions are formally integrated with their structure.</td>
</tr>
<tr>
<td>Michael van den Berg (RIVM, Ω)</td>
<td>Has a fulltime employment contract at RIVM, but works at AMC for 20%. His activities at AMC are mainly financed by RIVM.</td>
</tr>
</tbody>
</table>
1. Excellence

1.1 Quality, innovative aspects and credibility of the research programme

- Introduction, objectives and overview of the research programme

The rising need for Healthcare Performance Research & Intelligence

Healthcare performance measurement, performance-based healthcare governance mechanisms and the utilisation of healthcare performance intelligence by different end-users are key to today’s healthcare system challenges. Globally, healthcare systems are under strain because of ageing populations with demands based on multimorbidity, unmet needs of vulnerable populations, overuse and underuse of healthcare services and the advent of (disruptive) technologies and personalised diagnostics and treatments.6 Healthcare systems need to achieve a balance between improving the health of populations, delivering quality care for individuals, and containing costs. This so-called Triple Aim7 is mirrored in policy discourse by terms like ‘high-value healthcare systems’, ‘resilient healthcare systems’, ‘responsive healthcare systems’ and ‘sustainable healthcare systems’.

Societal and political momentum for Healthcare Performance Intelligence Professionals (HealthPros)

Research on healthcare performance measurement, performance-based healthcare governance mechanisms and the utilisation of healthcare performance intelligence by different end-users, is essential for channelling the various dynamics in healthcare towards high-performing healthcare systems. Healthcare performance intelligence professionals (HealthPros) are needed for realising the Triple Aim goal, for which there currently is high societal and political momentum.8,9,10,11,12,13,14,15 We are observing an ongoing shift globally from mere cost-control to more performance-based governance driving healthcare systems toward greater use of clinical and administrative data.15,16,17 There is, however, a lack of research training in producing valid, reliable and actionable healthcare performance intelligence, and stakeholders using the intelligence lack critical assessment skills especially with respect to intelligence derived from Big Data. Researchers with expertise in healthcare performance measurement, not necessarily know how to embed performance information in healthcare governance and make intelligence fit for purpose. This conclusion was also drawn by the EC-funded study on...

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7 Berwick et al. The Triple Aim: Care, Health And Cost. Health affairs, May 2008 vol. 27 no. 3 759-769.
8 In March 2016, multiple European health stakeholders drafted the consensus vision document ‘Enhancing Value in European Health Systems’ in which they state “well-designed Health System Performance Assessment [measurement] should be seen as an essential tool for sound economic governance within countries”. As one of the key challenges they identified “the need for training and analytical support for medical professionals in using outcome measures for quality improvements”. (http://www.eu-patient.eu/globalassets/policy/patientssafety/value-of-health-consensus-document.pdf).
9 In 2015, OECD findings showed that although all OECD countries are investing in health data infrastructures, there are still significant cross-country differences in data use (https://www.oecd.org/health/health-systems/Health-Data-Governance-Policy-Brief.pdf)
10 In Sept. 2014, the EC President specifically asked the DG Santé Commissioner to focus on: “Developing expertise on performance assessments of healthcare systems […] to build up country-specific and cross-country knowledge which can inform policies at national and European level.”
11 EXPH, Final report on Future EU Agenda on quality of health care with a special emphasis on patient safety, 9 October 2014; Brussels: European Commission.
14 http://ec.europa.eu/health/systems_performance_assessment/policy_en ; http://ec.europa.eu/health/patient_safety/policy_en; several beneficiaries (e.g. AMC) are part of these EU Expert Groups
16 Veillard et al. Health system stewardship of National Health Ministries in the WHO European region. Health Policy. 2011 Dec;103(2-3).
Big Data in Health published in December 2016, recommending to “strengthen human capital with respect to the increasing need for a workforce that can utilize the potential of Big Data in Health”. The velocity, variety, and volume of healthcare data is increasing exponentially. As systems move towards electronic health records and new technologies allow for an unprecedented ability to characterise and monitor patients, there is a tremendous opportunity to use the available data to understand the factors that hinder optimal performance of healthcare systems, and to identify immediately impactful ways of addressing them. There is also an urgent need to understand the patient, healthcare provider, manager and purchaser perspective. In short, the healthcare system performance researcher of the future needs to have a multi-disciplinary skill set and currently there is no structured PhD program to deliver on this.

A PhD Programme addressing five key performance areas of healthcare system strengthening

HealthPros will fulfil the need to optimise the use of available healthcare data, supporting healthcare systems in achieving the Triple Aim related performance goals by building capacity and skills of “Healthcare Performance Intelligence Professionals”. This will be done through the implementation of an ‘Immersion Community’-based approach to PhD training. The impact on the Triple Aim will be achieved by 13 PhD research projects that focus on five key performance areas of healthcare system strengthening across 3 R&D Work Packages (see table 1.1.a): 1. Implementation of person-centred integrated service delivery models; 2. Patient and family engagement in healthcare; 3. Addressing inequality in access to quality healthcare for vulnerable populations; 4. Better outcomes through continuous quality improvement; 5. Reduction of ineffective health spending and waste in healthcare.

Table 1.1a: Healthcare System Strengthening Performance Focus Areas of PhD research projects across 3 R&D Work Packages

<table>
<thead>
<tr>
<th>Healthcare system Performance impact areas</th>
<th>Healthcare Performance measurement</th>
<th>Performance-based Healthcare Governance Mechanisms</th>
<th>Utilization of Healthcare Performance Intelligence by different end-users</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Person-centered integrated service delivery models</td>
<td>ESR #: 1, 4</td>
<td>ESR #: 6, 7, 9</td>
<td>ESR #: 10, 12, 13</td>
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<tr>
<td>2. Patient and family engagement in healthcare</td>
<td>ESR #: 1, 4</td>
<td>ESR #: 7, 8</td>
<td>ESR #: 13</td>
</tr>
<tr>
<td>3. Inequality in access to quality healthcare for vulnerable pops.</td>
<td>ESR #: 1, 2, 4</td>
<td>ESR #: 7, 8, 9</td>
<td>ESR #: 12, 13</td>
</tr>
<tr>
<td>4. Better outcomes through continuous quality improvement</td>
<td>ESR #: 1, 2, 3, 4</td>
<td>ESR #: 6, 7</td>
<td>ESR #: 10, 11, 12, 13</td>
</tr>
<tr>
<td>5. Ineffective health spending and waste in healthcare</td>
<td>ESR #: 1</td>
<td>ESR #: 6, 7, 8, 9</td>
<td>ESR #: 12, 13</td>
</tr>
</tbody>
</table>

These are key strategies in the current policy environment for reaching high-performing healthcare systems. Each strategy requires robust performance

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18 A group of employers (2-5 major non-academic public and private organisations in each of the participating 6 countries) which will actively engage ESRs as their potential future employees (for further details see section 1.2 and table 2.3.1).
24 COM(2009) 567 final: Solidarity in Health: Reducing Health Inequalities in the EU.
measures and implementation methods that can only be developed through Healthcare Performance Research. In addition, the five performance areas were chosen because they are areas where impact can be measured and evaluated. They are also well suited for developing the Immersion Community concept that will underpin the HealthPros training network.

It has proven challenging for countries to achieve these five strategies for healthcare system strengthening due to a lack of knowledge, expertise and capacity to convert the currently available wealth of data in health care into actionable knowledge and tools for patients, providers, managers and purchasers.\textsuperscript{31, 32, 33} As a result, we are seeing for instance substantial variation in services delivery practices within and between countries\textsuperscript{34}, there are increasing inequalities in health outcomes\textsuperscript{35}, and substantial unmet needs remain in many countries across Europe.\textsuperscript{36, 37, 38}

HealthPros will develop tools and implement methods to streamline healthcare performance measurement, governance and utilisation that match the different health care systems in the Netherlands, Denmark, Germany, UK, Italy, Hungary and Canada, and will support the transferability of the tools and methods to other countries.

**Specific objectives of HealthPros are to:**

1. Deploy an Immersion Community-based approach to PhD training that consists of an innovative programme of collaborative, multi-disciplinary, and entrepreneurial PhD training. This approach will secure interaction with key (multidisciplinary) stakeholders establishing a close link to the practice ensuring applicability of the results, and will expose PhD’s in training to the myriad of career opportunities and give them the possibility to develop these opportunities during their training (WP 4).

2. Develop Healthcare Performance Intelligence Professionals who will possess transferable skills relevant to the current research environment such as data handling, and interaction with stakeholders that enable them to be effective agents of healthcare system performance strengthening (WP4).

3. Develop new and evaluate existing tools and methods (such as performance frameworks, dashboards, logic models, advanced statistical methods and risk profiling) for measuring, interpreting and translating healthcare performance data into actionable healthcare performance knowledge and indicators and transfer them to healthcare governance mechanisms enabling performance-based healthcare supporting the achievement of the Triple Aim (WP1, WP2).


\textsuperscript{34} Visser et al. (2012), [Quality as medicine’ approach for better care and lower costs], Booz & Company, 2012.


\textsuperscript{39} OECD Report ‘Ineffective spending and waste in health care systems. To be published in 2017.
5. Broaden the adoption of Immersion Community centred training of researchers and the utilisation of healthcare performance intelligence through example based promotional efforts (WP 6).

Overview and objectives of research programme

The research programme of HealthPros will create and facilitate use of actionable healthcare performance intelligence through several layers in a stepwise manner (figure 1.1).

In step 1, qualitative and quantitative data will be used from Danish health care registries, that can be linked unambiguously using the unique 10-digit civil registration number, which all Danish citizens receive upon birth or immigration (ESR 2 and 3). Databases of the Royal College of General Practitioners and Surveillance Centre (England), Scottish Diabetes Network and Danish Quality Registry will be used (ESR 4 and 5). Innovative approaches will be used to adapt techniques with optimal data granularity that will expand modelling across Europe in a privacy protected mode. Claims databases from an insurance company (Generali, partner) in Hungary will be used to develop a business model for engaging patients in insurer purchasing decisions and applying performance intelligence in contract arrangements between health care insurers and providers (ESR 8 and 9). Patient surveys, routine health insurance data (including cost data) and general practice record extracts are available from OptiMedis for various regions in Germany, that will be used by ESRs 5 and 10. In step 2, data will be integrated and used to contribute to a learning cycle in policy making as well as service provision, that will ultimately lead to better results. ESRs projects will make direct use of different forms and governance mechanisms (i.e. target setting, health services contracting, health financing, public reporting) that will allow broker solutions towards their end-users (i.e. citizens, health professionals, insurers and decision-makers). This process will require multiple disciplinary expertise embedded in the consortium through members active in social sciences, public administration, health economics, health services research, political science, health policy and management, biostatistics, clinical epidemiology, medicine, improvement science and information science.
Finally, in step 3, HealthPros will apply a practice oriented approach by testing the implementation of performance intelligence by multiple end-users across countries. ESRs projects will apply different conceptual approaches, governance mechanisms and tools introduced in steps 1-2 (see the descriptions of WPs 1-3 for test sites). The three-step approach will be translated in equivalent WPs, where each of the ESRs’ projects will form the basis of the research and methodology. Doing so, the HealthPros’ programme will catalyse the future career and job opportunities for the trained ESRs, by facilitating a direct training-to-job-market approach through the creation of the “Immersion Community”, i.e. a group of employers (2-5 major non-academic public and private organisations in each of the participating 6 countries) which will actively engage ESRs as their potential future employees (for further details see § 1.2 and table 2.3.1).

All data are treated in accordance with the relevant privacy protection acts. When individual data are used, they are pseudonymized (see section 5, Ethics, for further details).

Inter-sectoral collaboration To achieve the specific objectives of HealthPros’, the Consortium will develop conceptual approaches, business models and state-of-the-art tools for healthcare performance measurement that will inform new inter-sectoral alliances between public and governmental bodies (Ω), including local/regional/ national/international/European healthcare organisations, hospitals, other healthcare service organisations, private health services (€) and health insurance companies. As a beneficiary of the HealthPros Consortium, OPTIMEDIS illustrates this model very well.39

In addition, the results are constantly monitored by independent scientific experts from academic institutions to ensure achievement of the Triple Aim.40 All three main sectors (academia, public bodies (Ω) and private sector (€) are therefore represented in the consortium (see list of participants and their institutional sectors p.4-5).

To maximise the impact of HealthPros on EU health systems, our Consortium has been assembled including countries that vary in relation to their current capacity to address specific objectives. For instance, while RIVM (Ω, Netherlands) has in Europe the longest track record of national health system performance reporting, AUH and AU (Ω, Denmark) have a long history in integrating different national and regional quality registries and translating health information to healthcare providers; OPTIMEDIS (€, Germany) has developed one of the best practices in the EU on the use of ICT and health data analytics to support integrated care at regional level (Gesundes Kinzigtal). CIHI (Ω, Canada) has been at the forefront of producing and disseminating healthcare performance information to the general public through unique web-based tools. Canada presents a very important natural experiment because of the mix of for-profit and non-profit organizations, the type of reporting (public, private, or no reporting) and the relatively low competition environment. SSSA (Italy) uniquely works directly with regional and local policymakers to translate and communicate performance intelligence that guides health system improvement on a continuous basis.

By including countries and contexts at different stages of development, we aim making knowledge generated by HealthPros transferable across health systems, adopting a genuine Open Science community approach (see § 2.3). HealthPros’ ESRs will be fully equipped to attain the professional market with a wide pallet of skills and competencies that will prepare them to build alliances in Europe and Canada in an innovative, visionary context of Healthcare Performance Management.

39 As a private health management company, OPTIMEDIS (€) provides integrative care solutions in collaboration with multi-sectorial partners, e.g. a regional Integrated Care Project (http://optimedis.com/gesundes-kinzigtal) involving local community health care providers, private health and well-being companies.

• Research methodology and approach

ESRs 1-13 will work on a coherent set of individual research projects aimed at obtaining a PhD degree (see Table 3.1). Together, these projects will cover all layers of the Healthcare Performance Intelligence pyramid (see Figure 1.1 for the interrelations between WPs). ESRs will be trained to master the required innovative competencies and underlying multidisciplinary skills that are currently not well developed in existing research and training programmes (see § 1.2 for further details). The WPs (and individual projects) are inter-related in a way that does not create bottlenecks between the WPs or individual ESR’s projects which would impede the realization of specific deliverables and milestones (see also figure 3.1).

Health Care Performance Measurement Projects in WP 1

Within WP1, ESRs’ projects 1 - 5 relate to Health Care Performance Measurement in the five key performance areas of healthcare system strengthening (Step 1; see table 1.1a). State of the art methods to enhance fitness for use of healthcare performance indicators for different purposes will be developed by AMC (ESR 1). WP1 will build upon the health databases and registries in the UK, Denmark, Germany and Canada providing unique, robust and complete data sets. Advanced statistical techniques by SURREY, OPTIMEDIS (€), AUH, AU (Ω) and AQUA (Ω) and computational modelling at HCHE will be used to develop novel conceptual approaches in health care performance measurement in the area of equity in access to quality care for vulnerable populations (ESR 2 and 4). Expected outcomes will lead to improvement through better quality of care for patients with one or more chronic conditions (ESR 3), and shared decision-making through improved personalised risk profiling of patients with a chronic condition (ESR 4). Aspects of ineffective health spending and waste in fragmented uncoordinated services delivery (ESR 5), and integrated care models (ESR 4, 5) will be carefully assessed. De-identified and micro-aggregated data will be used taking into account relevant ethical matters (see also § 5 on Ethics). This WP will also address disparities by developing new measures to investigate inequalities in health care quality, access and use by gender and other individual characteristics (e.g. socioeconomic status, age, ethnicity, comorbidity; see ESR 2 and 4 in Table 3.1).

Performance-based Healthcare Governance Mechanisms Projects in WP2

Within WP2, ESRs’ projects 6 - 9 relate to Performance-based Healthcare Governance Mechanisms in the 5 healthcare system strengthening performance areas (Step 2; see table 1.1a). WP 2 will build on governance tools commonly applied in the private sector to test their suitability and applicability for the public health sector. It will be aimed at advancing strategies to resolve methodological challenges to benchmark clinical outcomes across care providers and healthcare organisations to inform a broad spectrum of stakeholders (from policymakers, physicians and managers, to patients). It will focus on managerial strategies and tools to boost professional networks to be accountable for the outcomes and results of their patients. ESR 6 (SSSA) will develop solutions for healthcare organizations to build up specific policies (such as bundled payments). The outcomes will create a common accountability system able to increase shared responsibilities regarding their complex patients’ outcomes. This will support managers with implementing integrated services delivery; reaching better outcomes and tackling ineffective health spending and waste. ESR 6 will benefit from methodology used in the private sector. Together with public sector partners CIHI, FM, DEP and RIVM, ESR 7 will test results-based management tools used in the private sector for their validity in the public sector and for policy making. ESR 8 (BCE) will develop a business model for effectively involving patients in the financial decision making of health insurance funds, survey tools to harness consumer preference into health care services, and a framework based on best practices how these results can be used as inputs for decision
making of financing providers and services and as well as investment priorities, and will benefit from the private sector experience in insurance product development (GEN €, BCE). The beneficiaries and partners in Hungary/Netherlands developed a validated survey tool that will be tested for implementation at a private health insurance company in Hungary. ESR 9 (BCE) will examine how performance indicators can be used in financing health care services to promote the integrated service delivery approach and help payers to create incentive structures for providers to ensure the use of services which assure equity in access and provide better value for money in terms of clinical effectiveness, patient safety and patient-centeredness, and to reduce ineffective health spending and waste. For this, ESR 9 will have direct access to local insurance databases to assess insurers incentives GEN (€) and will greatly benefit from the available experience at OPTIMEDIS in using administrative databases for performance management.

Utilization of Healthcare Performance Intelligence by different end-users Projects in WP 3

Within WP3, ESRs’ projects 10 - 13 relate to the Utilization of Healthcare Performance Intelligence by multiple end-users (Step 3; see table 1.1a). In WP3, the basic assumption is that, to achieve the Triple Aims, the availability of performance evaluation data is not enough. To make a difference, measures should be put in action, i.e. promoting tools and methodologies that allow to identify the weaknesses of the system, to define priorities, to set targets and to measure results; all this should be carried out measuring data in benchmarking and with public disclosure to appeal to reputation, both for clinicians and managers. Research shows that performance reports are not adequately used and that they are not sufficiently tailored on the policy makers’ needs. To fill in the current paucity of knowledge, there are extensive expertise, methods and tools within the HealthPros Network (through OPTIMEDIS, SURREY, SSSA, AMC, AQUA (partner), HCHE (partner), UNIDUND (partner), DEP (partner), IHPME (partner), AU, CIHI (partner), RCSP (partner)). Expected result of this WP is to provide both the lenses to assess how benchmarking can be effective, and tools and techniques to nudge stakeholders and organizations behaving differently and improving results. An innovative behavioural economics perspective will be applied to stimulate performance improvement (i.e. attitudes, behavioural intention and use of performance data) based on performance reports via ‘nudges’ (ESR 10). OPTIMEDIS (€) will integrate the newly designed methods in the German regional population based integrated healthcare systems to test their suitability. Novel solutions developed (in Germany, UK, Italy, and the Netherlands; e.g. health contracting) for active healthcare performance engagement of health professionals, insurers, policymakers and patients/citizens will be tested in multiple healthcare systems (e.g. Denmark, Canada, Hungary, and all previously listed countries), particularly in light of achieving their Triple Aim.

Central to WP3 will be specific case studies (e.g. diabetic patients (ESR 11)) and sectors (e.g. the long-term care sector (ESR 13)) to test the cross-country transferability of findings (see the descriptions of WPs 1-3 for specific test sites). In addition, strategies to maximize the impact of the benchmarking process on regional health care system improvement, minimizing unwarranted variation, and strategies for using value for money for priority settings strategies, and for setting challenging goals and target at regional and local levels will be developed and evaluated (ESR 12).

Table 1.1b provides an overview of all WPs, and the involvement of ESRs.
Table 1.1b: Work Package (WP) List

<table>
<thead>
<tr>
<th>WP#</th>
<th>WP Title</th>
<th>Lead Benef.</th>
<th>Lead Scientist</th>
<th>Involved ESR</th>
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<tbody>
<tr>
<td>1</td>
<td>Healthcare Performance Measurement</td>
<td>4</td>
<td>SURREY</td>
<td>1, 2, 3, 4, 5</td>
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<tr>
<td>2</td>
<td>Performance-based Healthcare Governance Mechanisms</td>
<td>3</td>
<td>OPTIMEDIS</td>
<td>6, 7, 8, 9</td>
</tr>
<tr>
<td>3</td>
<td>Utilization of Healthcare Performance Intelligence by different end-users</td>
<td>5</td>
<td>SSSA</td>
<td>10, 11, 12, 13</td>
</tr>
<tr>
<td>4</td>
<td>Immersion community centered PhD training</td>
<td>6</td>
<td>BCE</td>
<td>All ESRs</td>
</tr>
<tr>
<td>5</td>
<td>Network management and reporting to European Commission</td>
<td>1</td>
<td>AMC</td>
<td>All ESRs</td>
</tr>
<tr>
<td>6</td>
<td>Dissemination &amp; Exploitation of results</td>
<td>2</td>
<td>AUH</td>
<td>All ESRs</td>
</tr>
<tr>
<td>7</td>
<td>Ethics Requirements</td>
<td>1</td>
<td>All ESRs</td>
<td></td>
</tr>
</tbody>
</table>

Summary of Current State of the Art

Health care performance measurement

Insight into the performance of a healthcare system requires scientifically sound conceptual frameworks that were initially set in the seminal work delivered by Dutch authors (AMC) for the OECD Health Care Quality Indicators Project, recently revised in a publication led by SURREY. The Dutch Healthcare Performance Report (RIVM) and the Canadian Health System Performance framework are also valid examples (CIHI). The use of these frameworks depends on their use and relevance to resolve contemporary health policy. A recent international study (incl. AMC and CIHI in the advisory committee) recommended that good-quality studies are needed to improve the balance of current indicator sets to optimize use and make impact. RIVM and AMC found that quality indicators on patient safety, prescribing mental healthcare and patient experiences are reported least often. Similarly, Canada’s not-for-profit CD Howe Institute advocated developing/reporting of outcome measures relevant to patients, clinicians, system managers and policy makers. The recent Danish strategy on patient outcomes resulted in including Patient Reported Outcome Measures (PROMs) in 8 of the current 61 clinical registries. Other factors potentially hampering performance measurement include the administrative burden and overall costs, data linkage problems, privacy issues, and a lack of skills to translate healthcare services data into actionable knowledge (AMC, OPTIMEDIS).

Performance-based Healthcare Governance Mechanisms

The use of performance measurement and scientific evidence to steer health systems has clearly become a priority for governments in Europe and abroad. In 2013, the Dutch government obliged hospitals to publish Hospital Standardized Mortality Rates. The Dutch Minister of Health announced 2015 as the “Year of Transparency” to further boost the public availability and use of health system performance for high quality care, while the NHS decided to publish surgeon-specific outcome data in the UK. The German Federal Joint Committee has recently founded a national institute for quality assurance in health care (IQTIQ) to strengthen statutory performance measurement as part of the public health system. Since 2008, SSSA strengthened its collaboration with a 13 Italian Regions that have adopted the same Performance evaluation system (PES) developed by SSSA. They heterogeneously use PES to define and assign targets, within the planning and control system and within the rewarding system; to monitor their performance and then publish the results at local level; to “check-up” their performance. This work showed that a structured activity can be effective and stimulates the transition from performance measurement to performance management. BCE showed that insurers need guidance on how to use information on patient preferences in financial decision making, how to identify investment priorities and how to develop pay for performance schemes. Despite the widespread institutionalization of performance measurement, there is a knowledge gap of translating performance measures into performance management. In addition, there is a need to increase knowledge on how performance indicators can be used in financing healthcare services and how to interlink financial incentives with the needs of health professionals, institutions and regions.

Utilization of Healthcare Performance Intelligence by different end-users

Little is known about why performance information is still insufficiently used and what is needed to improve. A recent international study (incl. AMC and CIHI in the advisory committee) showed that the use and impact of most common performance indicators is due most often to provider rather than consumer behavior. Previous research explored the difficulties of patients in accessing and using outcome data. Interpreting such information requires a high level of numeracy and literacy. Most importantly, it is not known how such outcome data should be used by individual consultants and clinical teams to improve practice. AMC showed in various studies that using performance information for internal quality improvement needs strong external accountability to create positive spin-offs. An evidence-base showing to best achieve this is still lacking. To improve the acceptability of performance indicators across the whole healthcare spectrum (incl. public and private sector) it is important that the identification, development and implementation of performance
Originality and innovative aspects of the research programme

To the best of our knowledge, there is no existing PhD programme on Healthcare Performance Research with a specific focus on aligning the various healthcare system strengthening goals (the Triple Aim). Thereby the research of this consortium carries a high potential for breakthrough in organisational processes to perform healthcare performance measurement, the development and application of performance-based governance mechanisms and improving effective use of Healthcare Performance Intelligence by different end-users. In addition, the topical PhD projects build on practical case studies and on the involvement of end-users. The novelty lies also in the Immersion Community learning network approach, consisting of multi-disciplinary teams engaged in specific health care improvement strategies with the ambition to lead to a ‘system-wide changes’. Importantly, local, regional and national network members will learn from each other taking advantage of secondments. There is a clear need for such professionals that are equipped to optimise the use of available data through health care performance research to support local, regional and national health care stakeholders (incl. citizens, patients, providers, managers, insurers, government). The integration of the individual ESR projects will guarantee the success of novel services with the private sector. Namely, a business model for contract arrangements between insurers and health care providers (ESR 9 Hungary), and the testing and implementation of an award-winning performance reporting system for integrated care (ESR 10 OptiMedis Germany).

Advancing the current state of the art - innovative aspects of the research programme

HealthPros advances the current state of the art by delivering four main innovative categories of results:

1. **HealthPros will provide novel conceptual approaches in health care performance measurement using performance indicators benchmarking to meet new policy needs and improve ‘fitness-for-use’**.

   HealthPros will deliver the standardized terms of reference for database design, definitions, validation and transformation of data elements required for building quality of care and outcome indicators, as well as structuring robust statistical models for performance evaluation. The scheme will be evaluated across different national frameworks in Scotland, Denmark and across members of the EUBIROD network. HealthPros will test the applicability of innovative healthcare indicators in health information systems in Denmark, Italy and UK.

2. **HealthPros will infer policy on the dynamics of EU health systems and produce knowledge that will improve performance-based healthcare governance mechanisms, quality assurance and care delivery**.

   HealthPros will re-think the role of health services professionals to face the “Big Data” challenges and incorporate innovative approaches in healthcare governance. We will cross over disciplines and bridge the gap between the potential of the “Big Data Revolution” and professionals’ skills to analyse, integrate and interpret data. Best practices in performance-based governance mechanisms will be identified and evaluated, and new tools developed in the non-academic sector (CIHI, Ω), private sector (OPTIMEDIS, €), and academic sector (SSSA, BCE) will be tested for their applicability in health services in Hungary, Italy, Canada, Denmark, Germany. By developing and recommending appropriate governance mechanisms
that embrace these findings, we will go substantially beyond the state-of-the-art in current thinking. Recommendations will address different levels of maturity of health systems to enhance transferability and uptake of the recommendations (WP2).

3. **HealthPros will contribute to citizen and patient empowerment and provide skilled professionals with supportive intelligence to actively and efficiently influence national, regional and local policy through better measures for the Triple Aim.**

HealthPros will identify and evaluate approaches to translate research results in practice through the uptake of performance intelligence by different end-users (WP3). For instance, current healthcare benchmark processes in Italy will be compared to the experiences of Denmark and Canada to test which solution better satisfies the different informational needs of stakeholders in a network of 15 Italian health regions. We will test the impact of performance reporting on the actions of managers of long-term care facilities in selected institutions with different organizational features in the Netherlands, Italy and Canada. We will also test the transferability of new methods developed in Denmark to monitor changes over time of disparities in quality of healthcare services, for patients of different age with multiple chronic conditions, in a group of selected hospitals. See Workpackage descriptions for more implementation examples within WP3. By having multiple test sites for all newly generated insight and identified best practices, HealthPros will identify barriers and challenges as well as possible solutions for implementation, gaining better knowledge on scaling opportunities across health care systems. By regularly bringing together stable local networks (Immersion Community members identified in each country) of the key stakeholders that interact with the ESRs, not only training objectives and employment changes will be maximised, but project outcomes can directly be shared with stakeholders to help identifying and using local implementation opportunities.

4. **HealthPros provides a novel training programme and creates an Open Science community context**

HealthPros builds the basis for the further development of an Open Science EU platform for healthcare performance intelligence research training building a unique inter-sectorial link covering multiple disciplines and to support the sustainability of the network’s actions. See § 2.3 regarding the Open Science methods, and § 2.2 for the sustainability of the Network programme. HealthPros will increase the international mobility of healthcare performance intelligence researchers across EU countries. See § 1.4 for examples.

**Added value and links with existing programmes and networks**

Within HealthPros, AMC is an active member of the **HSR Europe Community** (FP7 2009-2011). The project was aimed at identifying and improving the contribution of health services research to the health policy process in Europe. HealthPros will contribute to the **HSR Europe Database** as an Open Science platform for sharing and disseminating its activities and outputs, best practices and Open Access publications. To optimize its complementarity to EU projects, HealthPros beneficiaries will build on existing (direct and indirect) links with related FP7/Horizon2020/DGSante projects, such as **BRIDGEHealth**41, **EUBIROD Network**42, **ECHO**43, **EUROHOPE**44, **EUROREACH**45 and **PASQ**46. The Supervisory Board reserves the possibility to invite coordinators of these EU projects during annual meetings to establish communication on the project’s outcomes (see § 3.2).

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41 Partner Organizations RIVM and SURREY are project partners of Bridge Health.
42 F.Carinci from SURREY is technical coordinator of the EUBIROD network (www.eubiod.eu). UNIDUND is involved for the execution of specific tasks.
43 N.Klaazinga from AMC has been working closely with ECHO’s project leader to implement findings in the work of the OECD
44 Partner Organisation RIVM was project partner of EUROHOPE
45 Partner Organisation Hamburg University is main partner.
46 AMC’s team member D.Kringos worked for 7 years at NIVEL company, project partner of PASQ
1.2 Quality and innovative aspects of the training programme

- **Overview and content of the training**

Each participating institution has expertise in an aspect of the approach to measure, govern, communicate and act upon healthcare services performance on which 13 ESRs will be trained. By training ESRs in an innovative tailored training program on a European top level, we are filling a gap for the needed profiles and careers of Healthcare Performance Intelligence Professionals. Through the training programme, all 13 ESRs will acquire the following required five innovative competencies and underlying multidisciplinary skills that are currently not well developed and represented in training programmes and the scientific community:

<table>
<thead>
<tr>
<th>Academic research skills:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency 1: Good inter-disciplinary skills to apply general research principles in healthcare from biomedical &amp; social sciences.</td>
</tr>
<tr>
<td>Competency 2: Good analytical skills to apply theories, concepts, study design, data collection, analysis and reporting principles related to research on performance intelligence in healthcare.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional skills:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competency 3: The scientific skills to conceptualize and develop reliable, valid, sensitive and useful healthcare performance indicators; and to optimize the use of available registries and administrative data and to apply statistical models to provide actionable input to healthcare performance governance.</td>
</tr>
<tr>
<td>Competency 4: The health informatics skills to translate health (care) data into actionable performance intelligence needed to balance costs per capita, population health and quality of care.</td>
</tr>
<tr>
<td>Competency 5: The reasoning, reflective and critical skills to translate performance intelligence into actionable input to support the achievement of the five key healthcare system strengthening performance areas.</td>
</tr>
</tbody>
</table>

Skills and competencies are aligned with the goals and workplan of the research programme. ESRs will master the skills from basic research to the high level skills required for healthcare system performance measurement, performance-based governance and utilisation of healthcare performance intelligence (see tables 1.2b,c). The training programme is organized as follows:

**Compulsory scientific training**

All ESRs will be enrolled in the local graduate school program (see table 1.2a), enabling the ESRs to attend courses that are complementary to their specific research topic, e.g. additional transferable skills and general and specific academic competencies and skills, such as statistics and scientific methods. Table 1.2b includes the compulsory skill courses originating from the graduate schools of beneficiaries. Table 1.2c lists a sample of elective skill courses the ESRs can choose from with their supervisors, depending on their background and set personal development goals. For all ESRs, participation in training opportunities will be assessed in line with local requirements of the PhD awarding institution. All ESRs will be encouraged to take part in summer schools and workshops in other institutions/countries. The doctorate level training will be multidisciplinary and innovative.

<table>
<thead>
<tr>
<th>ESR #</th>
<th>Recruiter</th>
<th>Start Month</th>
<th>Months</th>
<th>Enrolment in PhD awarding organisation (faculty)</th>
<th>Local Doctoral Programme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>AMC</td>
<td>7</td>
<td>36</td>
<td>AMC (Fac.of Medicine)</td>
<td>Ph.D. of the University of Amsterdam (no specific title)</td>
</tr>
<tr>
<td>2.</td>
<td>AUH (Ω)</td>
<td>7</td>
<td>36</td>
<td>AUH and AU (Fac. of Health)</td>
<td>Ph.D. of Aalborg University (no specific title)</td>
</tr>
<tr>
<td>3.</td>
<td>AUH (Ω)</td>
<td>7</td>
<td>36</td>
<td>AUH and AU (Fac. of Health)</td>
<td>Ph.D. of Aalborg University (no specific title)</td>
</tr>
<tr>
<td>4.</td>
<td>SURREY</td>
<td>7</td>
<td>36</td>
<td>SURREY (Fac.of Health &amp; Medical Sciences)</td>
<td>Ph.D. in Health Sciences</td>
</tr>
<tr>
<td>5.</td>
<td>OPTIMEDIS (€)</td>
<td>7</td>
<td>36</td>
<td>HCHE (Fac. of Economics and Social Sciences)</td>
<td>Ph.D. in Healthcare Management</td>
</tr>
<tr>
<td>6.</td>
<td>SSSA</td>
<td>7</td>
<td>36</td>
<td>SSSA (Institute of Management)</td>
<td>Ph.D. in Management Innovation, Sustainability &amp; Healthcare</td>
</tr>
<tr>
<td>7.</td>
<td>AMC</td>
<td>7</td>
<td>36</td>
<td>AMC (Fac. of Medicine)</td>
<td>Ph.D. University of Amsterdam</td>
</tr>
<tr>
<td>8.</td>
<td>BCE</td>
<td>7</td>
<td>36</td>
<td>BCE (Fac. of Business Administration)</td>
<td>PhD in Management &amp; Business Administration</td>
</tr>
</tbody>
</table>
Network-wide scientific training

Overall, each ESR will follow the equivalence of 30 ECTS credit points in the training and courses. Central to the compulsory network-wide scientific training are a series of 8 innovative scientific workshops (see table 1.2b) to train the ESRs in the key innovative competencies that all ESRs need to acquire. They are developed by the consortium members to fill the gap of current training programmes and will combine the required expertise of several disciplines in the training programme such as social sciences, public administration, health economics, health services research, political sciences, health policy and management, biostatistics, clinical epidemiology, medicine, information sciences and communication. All ESRs will attend these workshops, which are held back-to-back with 7 Joint Meetings as well as an end-conference on ‘The transferability of HealthPros’ findings to High, Middle and Low-income healthcare systems’.

Table 1.2b also provides an overview of the Joint advanced scientific and technical courses (developed by the HealthPros Network) all ESRs will follow. The ESRs’ career development plans (see section 1.2 for further details) will complement these courses with tailored (elective) courses that are offered at the different members of the Network, that match the individual ESRs’ needs (see table 1.2c for a sample of available courses). The list of compulsory scientific courses and workshops are entirely novel in the current training framework of the ESRs. This is in alignment with the advancement to the state of the art (§ 1.1).

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Competencies</th>
<th>ECTS</th>
<th>Lead Org.</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick off meeting + supervisory board + Immersion Community event (International Companies)</td>
<td>- (5,6) AMC 1</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Career development (transferable skill course)</td>
<td>- (5,6) AMC 7</td>
<td>- (5,6) AMC 7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gender in Research as a Mark of Excellence (transferable skill course)</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint meeting + Immersion Community event (Dutch Companies)</td>
<td>- (5,6) 7 7</td>
<td>7 (1, 4, 6) AMC 7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Innovative Scientific Workshop ‘Performance indicators development’</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World of Science (transferable skill course)</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1.2 b Main Network-Wide Training Events, Conferences and Contribution of Beneficiaries

<table>
<thead>
<tr>
<th>Main Training Events &amp; Conferences</th>
<th>Competencies of skill training events (IC= Innovative Competency, see section 1.2 for a listing)</th>
<th>ECTS</th>
<th>Lead Org.</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick off meeting + supervisory board + Immersion Community event (International Companies)</td>
<td>- (5,6) AMC 1</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Career development (transferable skill course)</td>
<td>- (5,6) AMC 7</td>
<td>- (5,6) AMC 7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gender in Research as a Mark of Excellence (transferable skill course)</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint meeting + Immersion Community event (Dutch Companies)</td>
<td>- (5,6) 7 7</td>
<td>7 (1, 4, 6) AMC 7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Innovative Scientific Workshop ‘Performance indicators development’</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World of Science (transferable skill course)</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1.2b Main Network-Wide Training Events, Conferences and Contribution of Beneficiaries

<table>
<thead>
<tr>
<th>Event Description</th>
<th>Competencies</th>
<th>ECTS</th>
<th>Lead Org.</th>
<th>Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kick off meeting + supervisory board + Immersion Community event (International Companies)</td>
<td>- (5,6) AMC 1</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Career development (transferable skill course)</td>
<td>- (5,6) AMC 7</td>
<td>- (5,6) AMC 7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Gender in Research as a Mark of Excellence (transferable skill course)</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joint meeting + Immersion Community event (Dutch Companies)</td>
<td>- (5,6) 7 7</td>
<td>7 (1, 4, 6) AMC 7</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Innovative Scientific Workshop ‘Performance indicators development’</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World of Science (transferable skill course)</td>
<td>- (5,6) AMC 1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PhD Thesis.</td>
<td>IC (1,2)</td>
<td>(4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Handling the media (transferrable skill course)</strong> Aims to equip ESRs to approach &amp; effectively interact with the media to inform the wider audience about their research.</td>
<td>1.0</td>
<td>AMC 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to write attractive, scientifically sound, understandable press releases and effectively deliver public interviews about scientific results. (Relates to IC 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health Informatics &amp; Information Governance Workshop</strong> Aims to equip ESRs with a deep understanding of health informatics and information governance to confidently use routine health data.</td>
<td>1 (1-6)</td>
<td>SURREY 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to sort, clean, process, describe health data; Gain insight in advanced statistical analysis/modelling; Using analytical techniques and tools on real world scenarios to generate insights and embed learning; up to date knowledge on ethics and data privacy regulations of data exchange and use. (Relates to IC 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Joint meeting + supervisory board + Immersion Community event (Danish companies)</strong></td>
<td>- (5,6)</td>
<td>AUH 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><em>Innovative Scientific Workshop</em> ‘Registry-based performance indicators’</em>* Aims to provide insight in methods using registry-based performance indicators to document, monitor and improve the quality in health care. of quality improvements and public release of data.</td>
<td>1 (1,2,4,6)</td>
<td>AUH/ AU (Q) 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Knowledge on how to use registry-based performance indicators to document and improve the quality of care in routine clinical practice. (Relates to IC 3)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>The art of scientific presentations &amp; Open Science publications: Design and delivery (transferrable skill course)</strong> Aims to examine the importance of Open Science publications and to equip ESRs with presentation skills and techniques enhancing their ability to communicate scientific content to various audiences.</td>
<td>1</td>
<td>AUH 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to apply Open Science principles and to communicate effectively scientific content to laymen, academic, and industry-based audiences. (Relates to IC 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bioethics (transferrable skill course)</strong> Aims to give ESRs a broader base to discuss and analyze ethical problems they meet through their scientific work.</td>
<td>1</td>
<td>AUH 13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Recognize, analyze moral problems in public health, research and health policy and construct public policy arguments informed by the analysis of empirical and normative scholarship in bioethics. (IC 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Joint meeting (incl. Knowledge engagement expert conference with invited speakers) + Immersion Community event (German companies)</strong></td>
<td>- (5,6)</td>
<td>OPTIME 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><em>Innovative Scientific Workshop</em> ‘Novel statistical techniques for analysing the potential of performance indicators’</em>* Aims to provide ESRs with knowledge and skills on advanced statistical techniques increasingly used in the analysis of comparative performance data</td>
<td>1 (1,2,3,4,6)</td>
<td>OPTIME DIS (€) 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to identify when advanced statistical techniques are needed in analysing performance indicators and being able to appreciate the methodological requirements for their application. (Relates to IC 3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Proposal writing (transferrable skill course)</strong> Aims to enable ESRs to understand and apply the concepts and principles of proposal writing within international health and to improve their personal and technical skills in proposal writing for future research grants.</td>
<td>1 (4)</td>
<td>OPTIME DIS (€) 19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to write a project proposal that meets the needs of a targeted funding agency and end-users. (Relates to IC 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Joint meeting (incl. Knowledge engagement expert conference with invited speakers) + supervisory board + Immersion Community event (UK companies)</strong></td>
<td>- (5,6)</td>
<td>SURREY 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><em>Innovative Scientific Workshop</em> Essential levels of health information for evidence-based performance evaluation</em>* Aims to teach ESRs about the opportunities and available tools and methods for strengthening health policy while complying with world class health data governance. ESRs will learn to apply Advanced statistical approaches for a new generation of data systems.</td>
<td>1 (1,2,3,4,6)</td>
<td>SURREY 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to apply advanced statistical techniques for a new generation of data systems and to identify opportunities and develop strategies for strengthening health policy while complying with world class health data governance. (Relates to IC 3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Health Care Policy, System Structures, Functions (transferrable skill course)</strong> Aims to give ESRs a broader base to explore the complex management and administrative demands of a modern health system.</td>
<td>1 (4)</td>
<td>SURREY 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to apply a policy analysis framework in research and decision-making. (Relates to IC 3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organisational behaviour and management (transferrable skill course)</strong> Aims to provide insight into the fundamentals on which organisations are built and provides analytical processes for understanding behaviour at work and managerial processes.</td>
<td>1 (4)</td>
<td>SURREY 25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► Able to apply organisational management models, approaches and tools to diagnose, analyse and address an organisational problem. (Relates to IC 1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Joint meeting + Immersion Community event (Italian companies)</strong></td>
<td>- (5,6)</td>
<td>SSSA 31</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em><em>Innovative Scientific Workshop</em> ‘From benchmarking to quality improvement’</em>* Aims to introduce the strategies for producing quality improvement starting from performance benchmarking with specific attention for professionals’ engagement, public reporting, application of performance indicators at the different levels of healthcare systems</td>
<td>1 (2,3,4,6)</td>
<td>SSSA 31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>► To be familiar with the performance evaluation system of a network of regions and its methodology as well as with existing 'National Outcomes Evaluation Programs' at national level in countries. Able to analyse the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Benchmarking, setting goals and priorities in the healthcare performance evaluation system (scientific skill course)</strong> Aims to provide insight in the fundamentals and evidence on the use of performance evaluation systems different countries in the healthcare sector at national, regional and organizational</td>
<td>1 (2,3,4,6)</td>
<td>SSSA 31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>►</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Transforming Open Science into Open Innovation: Skills and Tools for Entrepreneurship and Technology Management (transferrable skill course)
Aims to introduce students to the fundamental skills and tools regarding technology management in general and high-tech entrepreneurship.

- Able to apply theories from business studies on open innovation management and entrepreneurship and to use new tools into their research and/or managerial and/or entrepreneurial careers. (Relates to IC 1,2)
- 1 SSSA 31

Public Marketing for healthcare sector (transferrable skill course)
Aims to provide insight in fundamentals of public marketing to identify population’s care needs; to introduce ESRs to personalised & standardised marketing tools.

- Able to apply and use tools of public marketing to analyze data on patient behaviors and to identify patient needs through patient experience data. (Relates to IC 3)
- 1 SSSA 31

Joint meeting (incl. Knowledge engagement expert conference with invited speakers) * + supervisory board + Immersion Community event (Canadian companies)
- 1 IHPME 37

Innovative Scientific Workshop* ‘The politics of performance indicators’
Aims to help ESRs understand how political, technocratic, & organizational decisionmaking shape indicator selection, use, & overall performance management systems; to learn techniques in matching evidence & strategies to political contexts.

- Unable to understand stakeholder and political influences on performance management systems. Able to align performance management initiatives with political priorities and link health policy and managerial input facilitating target setting and change management. (Relates to IC 4,5)
- 1 IHPME 37

Negotiation and conflict management seminar (scientific skill course)
Aims to help ESRs employ conflict resolution skills in creating and ensuring uptake of performance measurement and management systems.

- Unable to build coalitions for change. Able to to drive healthcare performance management and improvement in practice in multiple sectors and levels. (Relates to IC 4,5)
- 1.0 IHPME 37

Leading and Managing Change (scientific skill course)
Aims to enable ESRs to employ systems thinking and theories derived from social science, organizational theories, psychology related to influencing transformational change and overcoming resistance to change at the clinical micro-system level.

- Unable to interpret performance information in context and carry out root cause analysis to diagnose performance issues and propose a sensitive course of action to improve performance. Able to design context-specific change management strategies and deploy leadership skills required to implement meaningful change and model environments for change. (Relates to IC 1,2)
- 1.0 IHPME 37

Legal, Regulatory Environment and Risk Management (scientific skill course)
Aims to enable ESRs to deploy strategies for integrating organizational risk management, quality improvement and patient safety activities; and apply methods for identifying, managing and investigating critical incidents, and for implementing and sustaining effective recommendations for improvement in practice in multiple sectors.

- Unable to analyse health policy and managerial needs and the impact of health financing, inspection and accreditation regimes relevant to performance management systems. (Relates to IC 4,5)
- 1.0 IHPME 37

Joint meeting + Immersion Community event (Hungarian companies)
- - (5,6) BCE 42

Innovative Scientific Workshop* ‘Performance indicators and health economics’
Aims to analyse, interpret and combine performance indicators and economics to identify benefits and cost consequences of healthcare interventions.

- Unable to develop an interdisciplinary analytical approach to measure performance, improve quality of healthcare provision in a cost-efficient way, to make choices on the use of scarce resources in financing healthcare interventions. (Relates to IC 3,4,5)
- 1.0 BCE 42

Value Based Purchasing of Services and Insurance in the Healthcare and Social Sector (scientific skill course)
Aims to provide insight in the concept value-based purchasing (VBP); a strategy used by employers and governments to promote quality & value of health services.

- Unable to develop an interdisciplinary analytical approach to measure performance, used in the contracting between insurance funds/companies and providers in order to achieve value for money. (Relates to IC 4,5)
- 1.0 BCE 42

13 Webinars organised (every 3 months) by individual ESRs on their PhD work (transferrable skill)

- - (6) AMC 9

Final Conference on ‘The transferability of HealthPros’ findings to High, Middle and Low-income healthcare systems’

- - (6) AMC 48

**= advanced technical scientific course, newly developed by HealthPros Network**

Transferable skills

All ESRs will jointly take part in complementary courses to train them in transferable skills, organized by academic and non-academic partners (see table 1.2b). According to the needs of the individual ESR, additional courses will be followed at the local participating organizations, as identified in the career development plan (see table 1.2c for a sample of available courses). All ESRs will be involved in the organization of joint meetings and workshops and will be responsible for organizing at least one webinar on their individual research project open for the general public. Immersion Community members will take part in this. Every year we will invite at least one visiting scientist for a masterclass connected to a network meeting (e.g. prof Drösler, Prof Shojaian, Prof Marshall, Prof Black, Prof Dixon-Woods, Prof Braithwaite, Prof Nelson, to all of which the consortium maintains close contacts; we aim for a 50-50% gender
All ESRs will take part at least four times a year (from year 2) in ‘Data Hackathons’ (see next page).

### Trans-sector mobility

All ESRs will be mobile across the Network. During their PhD training, the ESRs will be seconded at least six months in a second participating institution, and two to three months in a third participating institution, in addition to visiting other partners in the Network (See table 1.4.1).

### Career Development Plans

Each ESR will elaborate an individual Career Development Plan. The supervisors will support the ESRs in formulating, preparing and regularly discussing the progress of their Plans, which will address the ESRs’: 1) Primary career interest; 2) Short-term (1-3 yrs) professional goals (incl. e.g. anticipated research results; skills courses; project management skills; anticipated ESR-Potential Future Employers Networking opportunities; anticipated Dissemination and Exploitation activities); 3) Level of attainment of HealthPros-specific 4 competencies; 4) Any additional skills, knowledge or experience the ESR would like to acquire that may directly or indirectly help them in their future positions; 5) Description of when and how progress checkpoints will occur and what developmental activities will be completed or discussed at these times; 6) Long-term (4+ yrs) professional goals (incl. activities/training needed to attain these goals).

### Immersion Community

Importantly, the ESRs will benefit from a unique concept of the HealthPros network: the Immersion Community (ImCom). The HealthPros Consortium maintains close ties to a wide range of organizations in academia, industry, pharma, governance, and purchasing (social health insurance, regional government). ImCom members (see table 2.3.1) will present their company profiles and discuss with the ESRs how they can complement and contribute to the company’s work, how they will offer work visits, taking part in job speed-dates with ESRs, and provide the main theme as well as taking part in facilitated ‘Health Business Games’ with

### Table 1.2 c. A sample of available Elective Skills courses offered locally by beneficiaries and partner organisations (each 1 ECTS; in total 7 ECTS need to be obtained by each ESR, with a minimum of 4 ECTS from part I)

<table>
<thead>
<tr>
<th>I. ELECTIVE TECHNICAL/SCIENTIFIC PHD SKILL COURSES</th>
<th>II. ELECTIVE TRANSFERABLE PHD SKILL COURSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>International Comparison of Healthcare Systems (AMC/RIVM)</td>
<td>related to Innovative Competencies 1 &amp; 2 (lead institute)</td>
</tr>
<tr>
<td>How to Use and Interpret Large Datasets from Emerging Omics based Technologies (AUH)</td>
<td>Methods of Health Services Research (AMC/RIVM)</td>
</tr>
<tr>
<td>Analyzing Survey &amp; Population Data (SURREY)</td>
<td>A Global Perspective on the Health of Women and Children (IHPME)</td>
</tr>
<tr>
<td>Health Policy and Financing (BCE)</td>
<td>Health Economics (BCE)</td>
</tr>
<tr>
<td>Using Indicators as a Catalyst for Health System Performance Improvement (CIHI)</td>
<td>A Global Perspective on the Health of Women and Children (IHPME)</td>
</tr>
<tr>
<td>Management Accounting for Service Innovation, Sustainability and Health Care (SSSA)</td>
<td>Health Economics (BCE)</td>
</tr>
<tr>
<td>Analysis of health services research questions with an appropriate research design, sound data collection methods and analysis methods fitting policy and practice needs</td>
<td>Methods of Health Services Research (AMC/RIVM)</td>
</tr>
<tr>
<td>Proficiency to balance health services research questions with an appropriate research design, sound data collection methods and analysis methods fitting policy and practice needs</td>
<td>Proficiency to balance health services research questions with an appropriate research design, sound data collection methods and analysis methods fitting policy and practice needs</td>
</tr>
<tr>
<td>Deepen understanding of major international determinants of mother and child health (MCH).</td>
<td>Understand the relationship between several economic theories and key concepts in economic evaluation studies in healthcare.</td>
</tr>
<tr>
<td>A Global Perspective on the Health of Women and Children (IHPME)</td>
<td>Qualitative Methodologies (UNIDUND)</td>
</tr>
<tr>
<td>Health Economics (BCE)</td>
<td>A Global Perspective on the Health of Women and Children (IHPME)</td>
</tr>
<tr>
<td>Stata and SPSS tools in Biomedical Research (AUH)</td>
<td>Health Economics (BCE)</td>
</tr>
<tr>
<td>Ability to apply conceptual knowledge of the organization, financing and regulation of healthcare systems to research and compare structures, processes or outcomes of countries’ healthcare systems from different perspectives</td>
<td>Ability to understand different approaches to data analysis and apply knowledge of the principles of qualitative research</td>
</tr>
<tr>
<td>Ability to apply Stata, SPSS to transform raw data into publishable format</td>
<td>Ability to apply Stata, SPSS to transform raw data into publishable format</td>
</tr>
<tr>
<td>Ability to apply theoretical approaches and international comparisons to health policy and finance in order to analyze and evaluate health systems and their financial conditions</td>
<td>Ability to apply theoretical approaches and international comparisons to health policy and finance in order to analyze and evaluate health systems and their financial conditions</td>
</tr>
<tr>
<td>Ability to understand different approaches to data analysis and apply knowledge of the principles of qualitative research</td>
<td>Ability to apply and integrate core improvement concepts in designing and assessing an improvement project protocol</td>
</tr>
<tr>
<td>Ability to apply and integrate core improvement concepts in designing and assessing an improvement project protocol</td>
<td>Ability to apply and integrate core improvement concepts in designing and assessing an improvement project protocol</td>
</tr>
</tbody>
</table>
ESRs to train them in understanding the different perspectives, politics and change processes of different sectors and companies. Business games are a proven effective tool for this purpose and RIVM and SSSA are experienced with its application. The regular interactions of the ESRs with future employers across sectors and disciplines (through the ImCom) will not only help prepare the newly trained professionals for the job market, and give networking opportunities, but it will also increase their awareness of the suitability of their research methods and approaches to optimize their expertise, skills and competencies they will acquire. In addition, the stakeholders of the ImCom play a key role in the dissemination strategy of HealthPros (as explained in § 2.2).

Data Hackathons

At least four Data Hackathons a year (from year 2) will be organized where ESRs for 2 hours in a row jointly work online to solve a real-life problem of an SME and/or member of the ImCom. We will advertise this opportunity to SMEs to submit their cases of which a selection will be the subject of Data Hackathon. The Data Hackathons will also serve as joint sessions for ESRs to discuss and tackle data analysis issues of their ESR projects. Each session will be facilitated by a health data expert.

- Role of non-academic sector in the training programme

The participant list (on p.4-5) and ImCom table 2.3.1 together provide a complete overview of the involvement of non-academic public (Ω) and private (€) sectors in the training programme. HealthPros’ non-academic beneficiaries and partner organizations are involved in organizing Network wide main training events (see table 1.2b), providing skills training (see table 1.2c), and/or hosting secondments and work visits (see table 1.4.1). The non-academic sectors represented by the consortium members among the beneficiaries are: Healthcare performance governance and data analytics Public (AUH, Ω) and Private sector (OPTIMEDIS, €); and among the partner organizations are: Health care policy & performance measurement (Public) Sector (RIVM, Ω; DEP, Ω); health care provision/training (public) sector (RCGP RSC, Ω); Healthcare performance governance and Data analysis (public) (AU, Ω; FM, Ω) and private (AQUAL) sector; Healthcare safety, quality, efficiency (Public) Sector (CIHI, Ω); Health Insurance (private) sector (GEN, €).

The involvement of non-academic public and private partners in recruitment, supervision, providing secondments and work visits and training courses increases the suitability (tuned to the market) of the training programme of ESRs and increases their ability to implement their attained skills, competencies and knowledge into change management improving the performance of health care systems and services.

In addition, members of the ImCom represent a broader range of non-academic public and private sectors with whom the ESRs regularly interact (see table 2.3.1 for a listing of sectors and organizations, and Table 1.2b for the timing of interactions). The non-academic sectors are involved here to train ESRs in becoming a well-connected Healthcare Performance Intelligence Professional. The interactions with potential future employers should help ESRs to: Appreciate how personality and mindset affect the ability to build relationships; Target career goals for specific networking events, encounters or interactions; Actively develop relationships with potential future employers; Be comfortable, confident and professional by mastering relationship rituals; Showcase and disseminate expertise, experience, talents and interests; Choose optimum networking opportunities and making participation pay off.

1.3 Quality of the supervision
Supervision Scheme

To manage this ambitious and innovative training programme, HealthPros has set up a robust Supervision Scheme that is embedded in the formal PhD supervisory schemes of the participating PhD programs (see table 1.2a for further details). The supervisory team will be fully responsible for the training of each ESRs, their progress report and yearly appraisal (the members of the Supervisory Teams are listed per individual project in Table 3.1). Their functions will vary in terminology depending on administrative requirements of local PhD awarding institutions (e.g. PhD supervisors, PhD upgrading panels, PhD advisory committee members etc.). The supervisory team originates from a mix of academic and non-academic (private) institutions involving both beneficiaries and partner institutions. In addition, during secondments, especially in partner organisations the ESRs will obtain local guidance by the main scientists in charge for the duration of their stay and for the monitoring of the work and the logistical support. There will also be frequent contact with supervisors via skype at least during the first secondment periods.

AMC (coordinating institution) endorses the European Charter for Researchers and European Code of Conduct for the Recruitment of Researchers and implemented the HR Excellence in Research Logo. The AMC Action Plan proposes peer-to-peer support plans for the PhD trajectory. AMC will share this best practice with the HealthPros network members. The coordinator AMC has also established the AMC VUMC Research Code and, especially implemented the “Good Mentorship policy”, which will be used by all beneficiaries as mentorship guideline to promote attractive working conditions, and provide excellent supervisory trajectories.

Each ESR will also be informally supported by a colleague ESR through the data hackathons (see § 1.2) and the rotating buddy system. The buddy system means that each ESR from WP1, 2 and 3 will be the ‘buddy’ of a different ESR from the other WP at set regular times. This way the ESRs will cross-benefit from each other’s research programmes and training.

The PhD students have the right to consult an independent and qualified third party with regard to the functioning of his/her supervisor or in case of unresolved conflicts. The proposed neutral third party will be a representative from the local graduate school management, as stipulated in the AMC VUMC Research Code.

- Qualifications and supervision experience of supervisors

Table 3.1 shows the complete supervisory teams per ESR. All are experts in their field and have extensive experience with supervising PhD students, as shown in Table 1.3 with some key indicators for the experts whom are primary and/or secondary supervisor of ESRs. The workload of supervisors is based on experience as PhD supervisor, available time and doctorate level support staff. Estimated time devoted to supervision per ESR: Primary Supervisor: 0.15 FTE, Secondary Supervisor: 0.15 FTE; Co-Supervisor: 0.1 FTE.

<table>
<thead>
<tr>
<th>Primary (P) /Secondary (S) Supervisors</th>
<th>Supervisors to ESR (P or S)</th>
<th>(mean) Yrs experience</th>
<th>Main area of expertise</th>
<th># PhDs supervised</th>
<th># PubMed publ’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Brown (IHPME)</td>
<td>6, 7,12(S)</td>
<td>28</td>
<td>Statistical, analytic techniques; performance frameworks; HC decisionmaking; health services research</td>
<td>20</td>
<td>80</td>
</tr>
<tr>
<td>De Lusignan/ Prof. Carinci (SURREY)</td>
<td>4,11(P)</td>
<td>26</td>
<td>Health system performance, quality indicators, multivariate modelling, public reporting, info. systems</td>
<td>12</td>
<td>248</td>
</tr>
<tr>
<td>Dr. Groene (OptiMedis, €)</td>
<td>5 (P),9 (S),10(P)</td>
<td>17</td>
<td>Integrated care; population health management; healthcare governance; outcome-based performance</td>
<td>17</td>
<td>157</td>
</tr>
</tbody>
</table>
The coordinator AMC has implemented the “Good Mentorship policy”, which will be used by all beneficiaries to promote open recruitment, attractive working conditions and excellent supervisory trajectories. Doing research should be a pleasant and valuable experience. Good mentorship assists ESRs to enjoy their research work and training. The “Good Mentorship policy” has made explicit the duties of supervisors for ESRs that constitute good mentorship. In addition, all beneficiaries will follow a set of duties, have an appropriate attitude and supportive behaviour and accept the right of ESRs to consult an independent third party on the functioning of the supervisor.

### Duties

In the early stage of the training programme the Supervisors will draw up a career development plan (see also section 1.2) and a supervision scheme together with the respective ESR. The primary supervisor is responsible that the planned training is completed and supervision is provided according to this scheme. They will ensure daily support and schedule progress meetings at a frequency as they see fit, but at least every two weeks. The supervisor oversees that the ESR meets the qualifications for pursuing a PhD. Other duties of the supervisors are: enthusing the ESR and showing keen interest in his/her work; supervising the ESR’s work with an appropriate intensity and respect; help designing the research; monitoring progress by critically reviewing the raw research data together with the ESR; developing, maintaining a quality assurance policy; checking that claims to authorship are justified.

#### 1.4 Quality of the proposed interaction between the participating organisations

- Contribution of all participants to the research and training programme
During their training, all ESRs will be seconded for at least six months to a second (leading) participating institution allowing them to be trained multidisciplinary in their own research topic. Although the hosting centres themselves will provide the infrastructure and day-to-day scientific training, they will exploit a series of links with other beneficiaries/partners in both the academic, public and private sector to develop additional transferable skills. An overview of all secondments and training of the ESRs is given in table 1.4.1 and tables 1.2b,c. The nature of all secondments is chosen to complement the fellow’s research topic. In addition, the advanced workshops (see table 1.2b) developed by both the academic, public and private sectors will provide the fellows with practical experience at all levels of the healthcare performance intelligence pyramid (see figure 1.1). The transferable skills and experience obtained by the fellow across a variety of disciplines will enhance their CV and make them a more attractive candidate for future employment, both in the public or private sector (see tables 1.2b,c). It is the close collaboration with multidisciplinary sectors in HealthPros that will increase the capacity of all ESR to contribute to healthcare performance measurement and management e.g. in clinical practice, governance and financing and learning healthcare systems.

### Table 1.4.1 List of secondments and role of academic, public (Ω) and private (€) beneficiaries and partners

<table>
<thead>
<tr>
<th>ESR # (host benef.)</th>
<th>Place of secondment</th>
<th>Length of secondment</th>
<th>ESR # (host benef.)</th>
<th>Place of secondment</th>
<th>Length of secondment</th>
<th>ESR # (host benef.)</th>
<th>Place of secondment</th>
<th>Length of secondment</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>AMC</td>
<td>AU (Ω)</td>
<td>≥6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>AMC</td>
<td>SSSA (€)</td>
<td>≤2 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>AMC</td>
<td>DEP (Ω)</td>
<td>≤2 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>AMC</td>
<td>UNIDUND (Ω)</td>
<td>≥6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>SURREY</td>
<td>AU (Ω)</td>
<td>≤2 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>AMC</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>SURREY</td>
<td>AU (Ω)</td>
<td>≤2 months</td>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
<tr>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
<td>SURREY</td>
<td>CIHI (Ω)</td>
<td>≤6 months</td>
</tr>
</tbody>
</table>

- **Synergies between participants**

Table 1.4.1 and table 2.3.1 show the synergies between all participating organisations. The consortium together with the members of the Immersion Community represent all relevant sectors and relating areas of expertise. ESRs benefit from their knowledge and expertise through research supervision, skills training, work visits, secondments, and by participating in business games, data hackathons, job-speed-dates, and company presentations. The participating participants are complementary in their competencies, expertise, experience, methods, data access and organizational features (see also § 1 (methods), the list of participants (p.4-5) and table 1.3), which offer ample opportunities for synergies.

- **Exposure of researchers to different (research) environments, and the complementarity thereof**
Each ESR will be exposed to a mix of all different types of environments that represent the key stakeholders to re-enforce ESRs capacity to undertake research and acquire professional maturity. For instance, table 1.4.1 and table 1.2b show that private company OPTIMEDIS (€) not only recruits, hosts and provides secondments and work visits to many ESRs, they also will also provide training in complementary and scientific skills, and provide an innovative workshop on ‘Novel statistical techniques for analysing the potential of performance indicators’. **Academic research:** In total 8 organisations and their top-experts in their field are providing ESRs with the necessary expertise, support, capacity and infrastructure start to undertake research independently. **Public Performance Measurement, Governance, Performance-Intelligence Utilisation bodies:** In total 7 public (Ω) non-academic organisations offer the highest level of exposure to governmental agencies for the benefit of future health professionals and provide a direct expert knowledge on patient’s needs, medical needs and priorities. **Health data analytics:** In total, 3 private (€) organisations participate in the network developing innovative technologies and providing visionary business models to stimulate ESRs with a mind-set for innovation. The consortium is further reinforced by interactions with the Immersion Community Members (see § 1.2 for their activities and table 2.3.1 for an overview of the ImCom members by sector).

2. Impact

2.1 Enhancing the career perspectives and employability of researchers and contribution to their skills development

**Increased research and transferable skill sets**

The overall premise of HealthPros is that there are no current training programmes in Europe that focus on Healthcare Performance measurement, governance and utilisation. There is however research excellence on various topics in Healthcare Performance throughout Europe. The **Europe2020 agenda for Smart and Inclusive Growth** highlights the importance of innovation for making healthcare sustainable and the importance of the healthcare sector in improving skills and creating jobs. HealthPros will organize high performing Healthcare Performance experts into a network to deliver a training programme enhancing skills in developing novel conceptual approach in healthcare performance measurement through a multi-disciplinary approach. A broad array of sectors will be involved including: healthcare policy & management, health insurance/financing, patient safety (inspectorate) sector, healthcare provision, health information technology, the pharmaceutical sector and healthcare consultancy. Training will be delivered in transferable skill sets such as entrepreneurship, writing, obtaining funding, management and most importantly the transferable skills of knowing how to work with data. Data is becoming increasingly important in all endeavours, yet most training programmes deliver only cursory training on data. HealthPros will deliver research and researchers that will enable the continued development of healthcare performance models that include the perspective of all stakeholders. The transferable skill of entrepreneurship will be fostered through workshops, the Immersion Community and the SME driven data hackathons. The **MaRS** programme at the University of Toronto (partner IHPME) will serve as an example for the type of entrepreneurial support the Immersion Community will provide.

**Higher impact R&I output**

HealthPros addresses a major societal challenge – the sustainability of healthcare systems. The research that will be conducted is likely to have direct and high level of impact. The projects
in HealthPros will develop new ways of measuring performance and assuring performance indicators are acted upon for: vulnerable populations, multiple chronic diseases, diabetes and integrated care. HealthPros will also deliver advancements in how stakeholders, i.e. patients, healthcare providers, managers, insurance agencies are engaged in healthcare performance measurement, governance and improvement.

**More knowledge and ideas converted into products and services**

Nearly all outputs produced in HealthPros will be able to be immediately applied as a product or service for assessing healthcare performance. The challenge is the adoption and effective use of healthcare performance indicators into healthcare governance mechanisms. HealthPros will improve the use and adoption of performance indicators by developing better-suited indicators as well as models and tools for engaging stakeholders across sectors to work together in healthcare performance measurement and governance.

**Great contribution to the knowledge-based economy and society**

HealthPros is about making certain that on a societal level that knowledge that is available on healthcare system performance is put to use to achieve improved quality of care and more sustainable healthcare.

## 2.2 Contribution to structuring doctoral / early-stage research training at the European level and to strengthening European innovation capacity

- **Structuring doctoral/early stage training**

**Enhanced cooperation and better transfer of knowledge between sectors and disciplines**

The HealthPros consortium brings together 11 different disciplines: social sciences, public administration, health economics, health services research, political science, health policy and management, biostatistics, clinical epidemiology, medicine, improvement science and information science. The cooperation between these disciplines will be enhancement by the 39 planned ESR secondments. Knowledge transfer will occur with the healthcare governance, insurance sectors and patients as well. Healthcare systems across Europe can be a patchwork of varying structures and levels of care. Unifying the approach to healthcare performance will serve as means to drive more harmony and ultimately more quality in healthcare systems across Europe.

**Increase in international, interdisciplinary and intersectoral mobility of researchers in Europe**

HealthPros will be an exemplary network to demonstrate the value of having a high level of mobility with the 39 different secondments that are planned. Having completed a successful secondment in a particular location will increase the likelihood that a researcher will consider moving for the next phase of his or her career.

**Cooperation with companies, public bodies, academia, in a truly collaborative setting to support Open Science**

For example, HealthPros enhances the quality of existing networks with the public sector: Aarhus University (partner organisation) is an integrated part of the Danish Clinical Registries, which is a national quality improvement programme responsible for the activities
in the nationwide clinical registries (n=70) covering the entire Danish population (approximately 5.6 mln). The Danish Clinical Registries provides epidemiological, IT and quality improvement support, including coordination of continuous contact between hospitals and clinics as well as the administrative and political level. There is a well-established academic collaboration with Psychiatry, Aalborg University Hospital (Ω, beneficiary). The collaboration is based on access to extensive databases on the processes and outcomes of care and a strong agenda to perform assessment of health care performance management. HealthPros’ ESRs will gain from this extensive expertise and will also share best practices and test health care performance management models from the Scottish Diabetes Network in the UK (ESR 4). This knowledge is translated in pan-European collaboration for patient empowerment through the cross-border evaluation of a tool for quality analysis and improvement across members of the EUBIROD network, a collaboration that unifies partners with strong public support (ESR 11). Similarly benchmarking for performance intelligence developed in Italian region will be tested and validated in the Danish setting (ESR 6).

**Improvement in the quality of training programmes and supervision arrangements**

In HealthPros supervision is improved using 2 supervisors and a number of secondments. This allows supervision to be multi-disciplinary. Quality of supervision is also improved by the periodic review of the programme through the supervisory team. The sphere of supervision is broadened with the implementation of post graduate supervisors and Data Hackathons where the students and supervisors from the various programmes work together to conduct analyses. This allows for the modelling of the appropriate approach and cross discipline learning. This is illustrated by the Integrated Care Management model in Germany with OptiMedis AG (€, private sector beneficiary). OptiMedis AG provides, together with partners in regional settings in Germany, the Netherlands and in multiple collaborations abroad, a substantial health benefit to the population by developing regional, multi-professional health networks in which physicians, therapists and hospitals, as well as pharmacies, gyms, clubs, schools, businesses and local authorities are involved. These are based on integrated healthcare contracts with health insurers, based on a shared-savings approach and oriented towards achievement of the Triple Aim. Using interventions supported by advanced data analytics, a network of doctors and therapists participating in continuous quality improvement activities, and by patient motivation, they improve the health condition of the population and create health benefit for the entire region. At the same time they significantly decrease health insurance expenditures.

HealthPros’ ESRs, will gain from this extensive expertise and will share best practices and test the impact of new health care performance measurement systems in the UK for diabetic patients (ESR 5). Similarly, in Hungary, Netherlands and Germany academia developed models for integrating consumer preferences and performance intelligence into health services by contracting and applying performance intelligence for health financing will be tested for implementation at two private health insurance companies in Hungary and for the integrated care insurers contracts at OptiMedis AG (Ω) in Germany (ESR 8).

The network’s broad geographical coverage (incl. all regions of Europe) ensures the spread of a better quality research and innovation and raises standards of education and training of researchers. HealthPros will develop tools and a training programme transferrable to Central and Eastern European Countries from high income countries to CEE.

**Improvement in the working and employment conditions for doctoral candidates in Europe**

HealthPros aims to deliver an ambitious program of training workshops and secondments increasing the richness of the educational experience of the students. It provides the means for
students to work together in a community to support each other’s research and career development. HealthPros will organise the development of a Human Resources Strategy for Researchers in all the partner organisations. Existing strategy documents will be reviewed and commonalities identified and a basic set of strategy practices will be disseminated within the project. These will be discussed and reviewed at the first network meeting.

- **Strengthening European Innovation Potential**

**Increase in Europe's attractiveness as a leading research destination, accompanied by a rise in the numbers of talented researchers attracted and retained from abroad**

One of the unique aspects of HealthPros is the development of an Immersion Community that will bring the students together with multiple students to conduct Health Business Games that will help them understand different perspectives. This provides a unique opportunity for researchers that will make the HealthPros programme stand out. The close interaction with government, healthcare, academia, and industry in Europe make such a platform feasible in contrast to countries where there is not such a close interaction.

**Strengthening Europe's human capital base in R&I with a new generation of entrepreneurial highly-skilled ESRs**

The aim of HealthPros is to produce researchers who are truly of the ‘new generation’ in that they will be grounded in approaches to maximize the use of data to deliver research. The data is being collected, there is now a need to have individuals skilled in making use of that data. The balance of partners in HealthPros is tilted towards the private sector. In addition, the concept of the Immersion Community and the use of SME posed question Hackathons will expose the students to the potential of entrepreneurial approaches to health performance assessment as a major component of the knowledge economy. This approach will also open avenues for students to pursue careers with members of the overall network.

**Supporting the knowledge triangle between research, innovation, and education**

Innovation is about more than developing novel ideas or approaches. Implementation is equally important as creativity in innovation. In this regards HealthPros has the advantage that the time to adoption of the research outputs is relatively short and therefore there is a direct flow between research outputs and innovation that is enhanced through education. The educational dimension in HealthPros is about more than educated PhDs. HealthPros delivers innovative educational activities that engage stakeholders as part of the educational process as a means of increasing the uptake of health performance research results.

**Increased societal and economic relevance of European higher education**

On a societal level, HealthPros is addressing one of the biggest societal levels challenges – the sustainability of healthcare systems in the face of an aging population and increasing cost of advancing technology. It is also timely in regards to the growing trend to have more value based reimbursement for healthcare.

**Better quality research and innovation contributing to Europe's competitiveness and growth**

HealthPros is about developing better quality research through the training of students in healthcare performance measurement, performance-based governance and effective use of performance intelligence by multiple users. As healthcare costs increase with new costly therapies the ability to have robust assessment of healthcare performance, and apply
performance-based governance mechanisms become essential to facilitate the shift toward value based reimbursement.

2.3 Quality of the proposed measures to exploit and disseminate the project results

- **Dissemination of the research results**

To establish a realistic and successful uptake of the project’s results into dissemination and communication routes, it is essential to identify stakeholders for each type of result the Network delivers (§ 1.1). In Table 2.3.1 we describe the key stakeholders of HealthPros, their involvement or Commitment to HealthPros, the dissemination channels, and the results category with the goal of the dissemination. The dissemination and communication is under the responsibility of WP 6 leader (AUH). General dissemination activities (*timing in project Months*) will target all stakeholders and will be planned from the beginning of the project, and include: • **Project website (M3-48):** Announcing open-access Training Events and Workshops in well-read social media platforms, Newsletters, scientific journals (e.g. HealthPros Website, LinkedIn sites of ESRs and supervisors; academic partner’s websites; Newsletter of HSR Europe; monthly Newsletter of EUPHA). The HealthPros courses related to scientific, technical and complementary skills (incl. the advanced workshops) will be open for participation from a broader audience. • **Open Access (OA) Publications (M24-42):** All ESRs projects aim at 3 peer reviewed publications. Where possible institutional repositories for OA publication will be used. Many scientific organizations have their own repository (e.g. UvA-DARE of the University of Amsterdam for the AMC). Aggregating repositories collect the contents of these lower level repositories (e.g. NARCIS for the Dutch repositories, BASE as an international repository. OpenAIRE is the repository the ERC uses for monitoring its FP7 and Horizon 2020 programmes, Europe PubMed Central (originally funded by the Wellcome Trust and other UK funding agencies. Now also funded by the European Research Council). All research data and best practices will be shared with the respective communities and platforms (e.g. HSR Europe). • **HealthPros Newsletter (M3-48):** jointly written by ESRs on a quarterly basis, available on Project Website, and sent to all persons subscribed to it via the website, and spread via HSR Europe’s and EUPHA’s Newsletters’ announcements. • **Immersion community meetings (M1-42):** separate page on the website with the possibility of online forum to promote exchange of ESRs with the ImmCom members and engage with possible future employers. • **Keynote speakers for Final conference ‘Transferability of HealthPros’ findings to High, Middle and Low-income healthcare systems’ (M48) • Open Access scientific journals (at least 2 per ESR: (M24-42)).

### Table 2.3.1 Involvement of Stakeholders in HealthPros, incl. Immersion Community Members

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Involvement or Commitment to HealthPros (public=Ω / private=€)</th>
<th>Dissemination Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academia</strong></td>
<td>All beneficiaries and partner organisations</td>
<td>Annual presentations by all ESRs at international conferences (e.g. the International Population Data Linkage Conference; the EUPHA Conference; Participation of all ESRs to the regular International Health Services Research meetings of HSR Europe • HealthPros will take part in the Wennberg International Collaborative, a research network committed to improving health(care) equity (SSSA beneficiary is already a member) • All ESRs will be stimulated to subscribe to become a member of EUPHAnxt to interact with the community for Health Systems research.</td>
</tr>
<tr>
<td><strong>Consumer sector</strong></td>
<td><strong>ImCom members:</strong>: Ω Active Citizenship (Cittadinanzattiva), (Prof. Frey, president; Italy-European); Ω Scottish patient platform 'My Diabetes My Way' (UK); Ω PARENT – Cross border patient registries initiative (European); Ω European Patients’ Forum</td>
<td>National consumer engagement meetings: For example the AMC (supported by ESR1) will organise stakeholder meetings the Dutch Consumer and Patient Federation, etc. Similar strategies will be identified and implemented by all beneficiaries and partner organisations.</td>
</tr>
<tr>
<td><strong>Health care policy &amp; governance</strong></td>
<td><strong>ImCom members and Partner organisations:</strong> Ω The Dutch National Health Care Institute (Prof. Deinij, director; Netherlands);</td>
<td>• HealthPros links up with the European Observatory on Health Systems and Policies, to take part in: policy dialogues that are directly held with Ministries</td>
</tr>
</tbody>
</table>
of Health (on their a country's request) or at policy events in Brussels • National policy and management engagement meetings will be organized • Knowledge engagement expert conferences will be organised linked to the Network's joint meetings (see table 1.2b for timing) • HealthPros ESRs will be invited to join the Young Forum Gastein Network and the annual conference • ESRs from WP2 will be invited by the SB to connect with the European Health Management Agency and to apply for a voluntary position at the EHM Young Board, allowing them to influence strategic discussions on health management in Europe.

Goal: To raise awareness of the HealthPros ETN and engaging key stakeholders in the field of healthcare performance at all levels from health policy to community levels

Healthcare safety, quality, efficiency sector

Results Category*: 1, 2, 3, 4

ImCom members and partners organisations:
- HealthCare Quality Commission (Prof. S. Richards. Chief Inspector; UK)
- The Dutch Health Care Inspectorate (department head; Netherlands)
- Tuscany Regional Health Agency (A. Vannucci, Coordinator Quality and Equity Observatory; Italy)
- The Health Foundation (Dr. N. Barber, Improvement Consultant/Director of Research; UK)
- CIHI (K. Morris, Canada)

Goal: To raise awareness of the HealthPros Network and engaging key stakeholders responsible for healthcare performance.

Health Advisory sector

Results Category*: 1, 2, 3

ImCom members:
- KPMG (G. Black, Managing Partner; Canada)
- Outcomes Based Healthcare (R. Dunbar; CEO; UK)
- Deloitte (J. Geehehod, senior manager NL)

Several members of HealthPros participate in the OECD's bi-annual Health Committee meetings (AMC, SUKRY) and the annual Healthcare Quality Indicators Expert Group Meetings (RIVM, AUH, SSSA) which is led by HealthPros' project leader (AMC, N.Klazinga). • HealthPros will join up with the European Observatory on Health Systems and Policies, for ESRs to take part in their policy activities incl: • the Health Systems and Policy Monitor - the Web platform providing up-to-date information about ongoing health system reforms and changes • contribute to EuroHealth quarterly journal • Final (invitational expert) conference on the Transferability of HealthPros' results for other health care systems

Goal: To raise awareness of the HealthPros Network and engaging key international stakeholders to stimulate the take-up of results across health care systems

Knowledge engagement expert conferences will be organised linked to the Network's joint meetings (see table 1.2b for timing) • Organise Webinars: Each ESR will organise at least one webinar (see table 1.2b for timing) on their research project.

IT Innovation & Data Management/Analysis sector

Results Category*: 1

ImCom members and beneficiary:
- Philips (Dr. C. Fischer; scientist; UK)
- Xebia Netherlands b.v. (E. Verhoeven; Netherlands)
- The Danish National Association of Statutory Health Insurance Physicians (Dr. S. Kleudgen; Germany)
- Hungarian Association for Ambulatory Surgery (Dr. G. Eldin Mohamed; Hungary)
- Royal College of Surgeons (Dr. D. Cromwell, UK)

Goal: To raise awareness of the HealthPros Network and engaging key stakeholders responsible for healthcare performance.

Healthcare provision sector

Results Category*: 1, 2, 3, 4

ImCom members:
- German Hospital Federation-DKG (of national and state associations of hospital owners; Dr. B. Metzing; Germany)
- Fondazione Toscana Gabriele Monasterio (M. Emdin, MD at FTGM and Assoc.Prof. at SSSA; Italy)
- AOUP, Pisana Teaching Health Authority (C. Rinaldo Tomassini, Chief Executive; Italy)
- National Association of Statutory Health Insurance Physicians (Dr. S. Kleudgen; Germany)
- Hungarian Association for Ambulatory Surgery (Dr. G. Eldin Mohamed; Hungary)
- Royal College of Surgeons (Dr. D. Cromwell, UK)
- Azienda Nord Ovest (Local Health Authority; Italy)

Knowledge engagement expert conferences will be organised linked to the Network's joint meetings (see table 1.2b for timing) • Organise Webinars: Each ESR will organise at least one webinar (see table 1.2b for timing) on their research project.

International health(care) sector

Results Category*: 1, 2, 3, 4

ImCom members:
- The World Bank (Assoc.Prof. J. Veilant; Strategic policy adviser; US)
- OECD (Organisation for Economic co-operation and Development; Prof. N. Klazinga, Coordinator Health Quality Indicators Project; France)
- European Observatory on Health Systems and Policies (J. Figueras, Director; Brussels)
- WHO Europe (Dr. J. Tello, Health Services Delivery Programme Manager; Copenhagen)
- EUI/ROD network (Prof. M. Benedetti)

Exploitation of results and intellectual property

The Consortium Agreement will define the rights and obligations of each of the participating organisations concerning access- and transfer of background, ownership and protection of foreground, over and above the basic principles as covered by the contract with the European Commission. Foreground knowledge shall be owned by the contracting Party who has generated such knowledge. The Supervisory Board (all sectors and beneficiaries) is the
relevant authority for all decisions with respect to the dissemination and use of knowledge and the management of intellectual property. Exploitation of the results will be considered prior to dissemination of the results. The supervisory board will establish a protocol (initiated by the Leader of Work Package 5, AMC) for sharing and disseminating project results between beneficiaries/partners and external stakeholders. Further support and advice will be thought with the involvement of an IP officer (Business Developer) from the AMC IXA team. The Amsterdam Innovation Exchange (IXA) provides the relevant expertise and network connections for possible business development directly from academic results. HealthPros Foreground knowledge concerns: the use of the results in further research activities, by improving the provision of services (e.g. health insurance contracts, health system performance intelligence to governments). Another exploitation route for the results also concerns standardisation of activities (e.g. benchmarking quality of care between care organisations). Each beneficiary is committed to take measures beyond the life time of the funding of HealthPros to ensure exploitation of its results both directly and indirectly. Notably, Optimedis will exploit further links with ongoing projects such as SmartCare working on a standardisation framework for ICT platform for integrated care. Exploitation of results also occurs via the SME driven Data Hackatons. We will invite members of the immersion community to present their problems and challenges related to health care performance assessment, ESRs will work on these challenges and present solutions, immersion community members will be allowed to use the IP generated and initiate further translation of know how into their work processes. An IP agreement will be signed with the immersion community members that facilitates knowledge translation while recognizing the insight provided by ESRs and the HealthPros network. Eventually, it is the aim of the consortium to put as much as possible of the output of the project into the public domain.

Further exploitation by the consortium partners

Fit-for-use performance reporting strategies will allow citizens to be better able to voice their care expectations and experiences and to choose the right provider. Academia (e.g. AMC, AM, AU, SURREY, SSSA, BCE, HCHE, UNIDUND, IHPME) will be able to establish new high profile partnerships across sectors nationally and internationally, attract young researchers to work in Healthcare Performance Intelligence and to establish future scientific work. The public non-academic healthcare governance and data analysis sector such as AU (Ω) will be better able to integrate appropriate quality measures (e.g. PROMS) in quality registries to improve its performance feedback services to healthcare providers. Health care organisations (e.g. AMC, AU, AU) and providers (e.g. RCGP RSC) can benefit from HealthPros results to improve training to providers and improve quality of services and their accreditation opportunities. Public health care policy and performance management sector such as RIVM, CIHI (Ω) and academic health care performance measurement sector (e.g. SSSA): these organisations currently work under direct assignment by the government, HealthPros results will be able to improve their business model to help policy makers to monitor important trends and to evaluate system reforms to improve the achievement of the Triple Aim of health systems. Private healthcare governance organizations (e.g. OPTIMEDIS): OptiMedis has developed an award-winning performance reporting system for its integrated care networks and its utilization will be studied in light of the insight from ‘nudge’ theory. A particular focus of the study will be the impact of nudges for different performance domains, e.g. clinical effectiveness and person-centred integrated services, and on metric that not only refer to composite outcomes, but to the distribution of such outcomes in a population (e.g. equity in access, utilisation and outcomes), a unique perspective widely disregarded by current performance reports. The results delivered by ESR 10 will provide a wider application of nudges within the context of regional integrated health systems, and national health system performance assessment, hence ultimately benefiting OptiMedis
business model. HealthPros results have the potential to contribute to patient care improvement by further advancing its data analytics and ICT supported integrated care systems and to promote further evidence for improved cost-effectiveness and efficiency gains in Integrated Care. For instance, “The Integrated Care Pilot Healthy Kinzigtal [Gesundes Kinzigtal] in Germany succeeded to achieve an improved contribution margin. For 2014, a positive contribution margin of 155 euros per AOK-insured persons, or 5.4 million euros was achieved for all 31,000 AOK-insured persons in the region in regard to risk adjusted normal costs of care in Germany”. Health insurers (e.g. GEN, €) will be able to establish more cost-effective service contracts, on the basis of performance in addition to volume norms, make better consumer-based investment choices, and improve their citizen-orientation of their services. Hence HealthPros results have the potential to improve the cost-effectiveness of care, generate cost saving impact and will contribute to ICT support for smart health care models such as integrated care systems.

2.4 Quality of the proposed measures to communicate the project activities to different target audiences

- Communication and public engagement strategy of the project

The goal of the communication plan is to inform a large audience on the impact of HealthPros in society. Citizens are the direct recipients of national healthcare performance. HealthPros will use the a ‘two-way communication’ approach for specified target audience as described in the table 2.3.1. Communication to a large audience will be based on a ‘one-way communication’ strategy. Large audience consist of: Patients with multi-morbidity and their carers; Tax payers; Policy makers; Organisation who provide health and ‘well being’ care, that contribute directly or indirectly to the integrated care model; Schools. Therefore, the communication plan of HealthPros endeavours to translate the projects goals and findings in different languages in a literal sense and in a figurative sense. HealthPros impact in training and career development will also be a priority, in awakening possible interest from young students for example in the use of ICT tools to face Big Data Challenges of the 21st century. The list of activities will include (and are under the responsibility of WP6 leader, AUH):

- **Online Learning Platform for the public** containing all HealthPros’ training materials, have links with the ImCom (e.g. show interviews with its members), and showcase the products of HealthPros (M6-M48).
- **Video on the newly trained Professionals (continuous)**: Throughout the duration of the HealthPros Network a Movie will be made to capture HealthPros training programme. The movie will be broadly disseminated (online, through postal distribution of DVDs, and during school/organisation visits)
- **Media engagement (Year 2-4)**: Regular press releases about HealthPros will be produced, ESRs will be involved in drafting the press releases and in media interviews about their results. The press releases will begin with highlighting the innovative nature of the network and the need for healthcare performance research. As the projects produce results press releases will focus on those results and testimonials about the network. Major deliverables such as the Guide to Immersion Community PhD training. Most beneficiaries have dedicated press offices/media centres who will be able to assist the ESRs with targeting their communication to the appropriate audience.
- **Social media use (continuous)**: A HealthPros group page on ResearchGATE.net will be developed to inform academia more broadly about HealthPros’ publications, products and researchers. Every 4 months, the Network will produce a e-Newsletter with interesting facts, findings and developments of the Network, which will be co-authored by all ESRs in addition to the beneficiaries, and disseminated through social media (e.g. twitter, LinkedIn), the website, and sent to stakeholders in the networks of all involved partners/beneficiaries.
- **Open days and other activities for high school students (Years 2-4)**: In order to trigger the interest of young school students in science, almost all of the individual partner institutions
already organise activities for students from secondary schools. The ESRs will play an active role in arranging these visits and will give presentations about this ITN training program to students. The ESRs will also take part in the yearly information days for upcoming university students. Furthermore, they will participate in science day/week for the laymen in the local institutions and present the training program of this ITN. Moreover, all ESR will be encouraged to participate in summer/autumn schools that are organized in some of the partner institutions, which are often designed to encourage students who come from backgrounds that would not traditionally access higher education to apply to University.

- **Public Debates (Yrs 1-4):** Every ESR will organize at least once a year an informal public debate meeting (e.g. ‘science in the pub’ or ‘science at night’ formats) in a well visited public to discuss with the general public HealthPros’ work.

- **HealthPros Ambassadors (continuous):** We will organise bi-yearly competitions among the ESRs to think of and implement the most original ways to communicate and disseminate the work of the Network to an appropriate audience. The winning ESR will be listed on the Network’s front-page website as Ambassador of the month, will attend the next meeting of the Supervisory Board, and gets a role in a (to be developed) video on the newly trained professionals.
3. Quality and Efficiency of the Implementation

3.1 Coherence and effectiveness of the work plan

Fellow's individual projects

Figure 3.1 summarizes the coherence between outcomes of the Work Packages and more specifically the coherence between of the outcomes of individual research projects, which are described in below Table 3.1 on the next page.
Table 3.1: Individual research projects

<table>
<thead>
<tr>
<th>ESR1</th>
<th>Host institution: AMC</th>
<th>PhD enrolment</th>
<th>Start date</th>
<th>Duration</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

**Project Title:** Transferrability of actionable performance indicators: Making performance indicators work (Related to WPs: 1,2,4,6)

**Objectives:** 1) To identify the characteristics of indicators used in Europe and Canada as well as the conditions in which they are used (e.g specific purposes for healthcare performance measurement) that are likely to contribute to their transferability and to evaluate the extent to which this has led to measurable results for the Triple Aim; 2) To develop and evaluate composite measures for quality of care of vulnerable populations and evaluated for their transferability across health care systems.

**Planned secondments:** Hosted at the AMC (Netherlands). Secondment at the RIVM (Netherlands) (56 months) to work as a member of the Dutch Health Care Performance Report team. The supervisor at RIVM is also a member of the Healthcare Quality Indicator committee of OECD and organizes the major part of the data delivery to OECD. The researcher gets the possibility to visit the meetings with the committee at OECD as an observer. Secondment to CIHI (Canada; test site) (6 months) to participate in a team of researchers that work on performance reports about the Canadian Health system and to test the -in the Netherlands- developed and validated framework for improved indicator development and prioritization process in the Canadian health care system. **Supervisors:** Prof. N. Klazinga (AMA-primary); Dr. J. Veillard (IHPME-secondary); Dr. D. Krings (AMA-co-); Dr. M. van den Berg (RIVM-co-).

<table>
<thead>
<tr>
<th>ESR2</th>
<th>Host institution: AUH</th>
<th>PhD enrolment</th>
<th>Start date</th>
<th>Duration</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

**Project Title:** Quality of health care for vulnerable populations: Are We Closing Disparity Gaps? (Related to WPs: 1,2,4,6)

**Objectives:** 1) To develop and evaluate composite measures for quality of care of patients with stroke, heart failure and chronic obstructive lung disease. 2) To implement selected composite measures in clinical practice. **Performance area(s):** Reaching better outcomes. **Expected Results:** Increased insight in the methods and the practical experience (including the challenges and possible solutions) with implementing different composite measures of quality of care in large-scale routine quality improvement work to facilitate the use of these measures in other healthcare systems. **Planned secondments:** Hosted at Aalborg University Hospital, Secondment (26 months) at AU, Department of Clinical Epidemiology to be directly linked with the Danish National Quality Improvement Program and to receive training in clinical epidemiology, biostatistics and data management. Furthermore, to receive supervision for the analyses and the interpretation and reporting of the results. Secondment to SSA (Italy; ≤2 months) and a work visit to DEP (Italy; ≤2 months; site test) to learn from the experience with the innovative regional health authorities’ performance evaluation dashboard in Italy. **Supervisors:** Prof. J. Mainz/Asc.Prof. S.P. Johnsen (AU/RU-primary); Prof. S. Nuti (SSSA-secondary); Dr. C. Segheri (SSSA-co-)

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<tr>
<th>ESR3</th>
<th>Host institution: AUH</th>
<th>PhD enrolment</th>
<th>Start date</th>
<th>Duration</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

**Project Title:** Composite measures for quality of health care for patients with chronic conditions: Are we comparing apples and pears? (Related to WPs: 1,2,4,6)

**Objectives:** 1) To develop and evaluate composite measures for quality of care of patients with stroke, heart failure and chronic obstructive lung disease. 2) To implement selected composite measures in clinical practice. **Performance area(s):** Reaching better outcomes. **Expected Results:** Increased insight in the methods and the practical experience (including the challenges and possible solutions) with implementing different composite measures of quality of care in large-scale routine quality improvement work to facilitate the use of these measures in other healthcare systems. **Planned secondments:** Hosted at Aalborg University Hospital, Secondment (26 months) at AU, Department of Clinical Epidemiology to be directly linked with the Danish National Quality Improvement Program and to receive training in clinical epidemiology, biostatistics and data management. Furthermore, to receive supervision for the analyses and the interpretation and reporting of the results. Secondment to SSA (Italy; ≤2 months) and a work visit to DEP (Italy; ≤2 months; site test) to learn from the experience with the innovative regional health authorities’ performance evaluation dashboard in Italy. **Supervisors:** Prof. J. Mainz/Asc.Prof. S.P. Johnsen (AU/RU-primary); Prof. S. Nuti (SSSA-secondary); Prof. M. Vainieri (SSSA-co-)

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<tr>
<th>ESR4</th>
<th>Host institution: SURREY</th>
<th>PhD enrolment</th>
<th>Start date</th>
<th>Duration</th>
<th>Supervisors</th>
</tr>
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</table>

**Project Title:** Optimising the use of routine health databases for personalised risk profiling stimulating patient engagement (Related to WPs: 1,2,4,6)

**Objectives:** 1) To optimise the use of routine health databases for personalised risk profiling of patients stimulating shared-decision-making, by applying the health databases of the Royal College of General Practitioners (England), Scottish Diabetes Network and Danish Quality Registry to identify different risk profiles (incl. behavioural (e.g.treatment compliance, patient engagement), clinical, socioeconomic and demographic factors) of vascular complications of lower extremities in patients with Type 2 diabetes. 2) To identify an optimal data granularity that would allow exchanging data and to extend modelling across Europe in a privacy protected mode. **Performance area(s):** Patient Engagement; Person-centered integrated services delivery; Equity in access; Reaching better outcomes. **Expected Results:** Identifying appropriate methods to set international standards for personalised risk calculation in patients with diabetes using routine health databases. **Planned secondments:** Hosted at the University of Surrey (UK), Secondment to: a) the University of Dundee (26 months) to work on the nationwide Scottish database (SCI-FI); b) AUH and AU (Denmark; ≤2 months) to work on the Danish quality registry; c) other centres of the EUBIROD network (max. 6 weeks) to test the application of models in different European contexts. Work visit to OptiMedis (Germany, ≤2 months; site test) to learn results across other ESRs’ PhD theses and train on modelling real time data. **Supervisors:** Prof. S. de Lugisignan/Prof.F.Carinci (SURREY-primary); Prof. J.Mainz/Asc.Prof.S.P.Johnsen (AU/RU-secondary; Secondary Dr. O.Groene (OPTIMEDIS-co-); Dr. D. Wake (UNINDUD-co-).

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<tr>
<th>ESR5</th>
<th>Host: OPTIMEDIS</th>
<th>PhD enrolment</th>
<th>Start date</th>
<th>Duration</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

**Project Title:** Measuring the performance of integrated health care systems (Related to WPs: 1,2,4,6)

**Objectives:** 1) To develop novel approaches of performance assessment in Triple Aim-based integrated health care systems; 2) To optimise the use of patient surveys, routine health insurance data, and GP practice record extracts for performance assessment of integrated health care systems. ESRs will closely interact with ESR 6. **Performance area(s):** Person-centered integrated services delivery; reaching better outcomes; ineffective health spending and waste. **Expected Results:** This research will lead to important operational recommendations for the monitoring of integrated health care systems and strategic recommendations regarding its further development. **Planned secondments:** Hosted at the OptiMedis. Secondment to the HCHE (≥26 months) to get direct access to cutting edge training in health care evaluation and statistical modelling, and exchange with leading health economists. Secondment (for about 6 weeks) to AQUA Institute for training in preparing performance reports) focusing on the implementation aspects of integrated care performance assessment in Germany. A work visit to DUNDEE and SURREY (UK; ≤2 months) is planned to validate the in Germany developed integrated care models in the UK (and Germany) to draw conclusions on how to reach better outcomes on a balance set of performance indicators. **Supervisors:** Prof. Schreyögg (HCHE-primary); Dr.O.Groene (OPTIMEDIS-secondary); Prof. F. Carinci (SURREY-co-).

<table>
<thead>
<tr>
<th>ESR6</th>
<th>Host institution: SSA</th>
<th>PhD enrolment</th>
<th>Start date</th>
<th>Duration</th>
<th>Supervisors</th>
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**Project Title:** The role of managerial systems in promoting integrated care pathways (Related to WPs: 1,2,3,4,6)

**Objectives:** To propose managerial strategies and tools to boost professional networks to be accountable for the outcomes and results of their patients. ESR 6 will apply the knowledge gained by ESR 5. **Expected Results:** This research will lead to solutions for healthcare organizations to build up specific policies (such as bundled payments) to create a common accountability system to increase shared responsibilities regarding complex patients’ outcomes. **Performance area(s):** Person-centered integrated services delivery; reaching better outcomes; ineffective health spending and waste. **Planned secondments:** Hosted at SSA. Secondment at DEPO. (≥26 months) to develop specific skills on study design, data management, and statistical analysis of outcome measures. Hosted at SSA. Secondment at the University of Toronto (IHPME) (≤2 months) to examine Canadian approaches of integrated care and at FM (Italy) (≤2 months) to follow different paths of chronic patients within the Tuscan Region and propose managerial strategies to boost the best practices. **Supervisors:** Prof.S. Nuti (SSSA-primary); Prof.A.Brown (IHPME-secondary); Dr. A.M. Murante (SSSA-co-); Prof.M. Vainieri (SSSA-co-)

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ESR7  | Host institution: AMC   | PhD enrolment Yes | Start date Month 7 | Duration 36 months | D2.1, D2.3  
**Project Title:** Results-based (corporate) governance-tools for healthcare (Related to WPs: 1, 2, 3, 4, 6)  
**Objectives:** To develop Results-based management tools tailored to the needs of healthcare policy and management. ESR 7 is closely linked to ESR1. Results-based management tools are commonly used in the corporate sector, to improve results by monitoring performance, learning, adapting and target setting. Such tools may be useful in healthcare management as well. However, since healthcare differs essentially from goods produced in the corporate sector, there are specific performance issues to be tackled.  
**Expected Results:** 1) A practical guide containing an oversight of both possibilities and pitfalls when using existing Results-based tools in health care management; 2) User-friendly and well-founded Results based management tools, focussed at the Triple Aim as well as more intermediate goals. These include templates for dashboards, performance frameworks, logic models and risk registers. (REF global affairs Canada).  
**Planned secondments:** Hosted at AMC. Secondment at CIHI (≥6 months) and at the University of Toronto (≥3 months) for collecting field data through interviews and working with decision-makers in Ontario and to validate the data. Work visit to the RIVM (≤6 months) (Netherlands) will take place to test the Canadian results in the Dutch healthcare system. Supervisors: Prof. N. Klazinga (AMC; primary); Prof. A. Brown (HPME; secondary); Dr. J. Veillard (CIHI; secondary); Dr. D. Kringos (AMC; co-); Dr. M. van den Berg (RIVM; co-)

ESR8  | Host institution: BCE   | PhD enrolment Yes | Start date Month 7 | Duration 36 months | D2.1, 2.4  
**Project Title:** Patient engagement in healthcare purchasing by insurers: Reducing waste, increasing value (Related to WPs: 1, 2, 3, 4, 6)  
**Objectives:** To study how performance indicators can be used to elicit consumer preferences (with special attention for vulnerable populations) regarding health service attributes as well as to examine how patients can be involved in the financial decision making of health insurance funds (e.g. contracting and accounting) to increase value for money for consumers and society and assure patient engagement in integrated service provision.  
**Expected Results:** A business model for effectively involving patients in the financial decision making of health insurance funds, a survey tool on preferences of consumers regarding quality attributes of health care services, and a framework based on best practices how these results can be used as inputs for decision making of financing providers and services and as well as investment priorities.  
**Planned secondments:** Hosted at BCE. Secondment at AMC (≤2 months) to get direct access to cutting edge training in health economics. Secondment to SSSA (Italy, ≤3 weeks) to get direct access to data of the Danish quality registries for international comparisons and to study the applicability of integrated nudges with national performance assessment data sources. Supervisors: Prof. L. Gulaci (BCE; primary); Prof. N. Klazinga (AMC; secondary); Asst. Prof. P. Baji (BCE; co-); Dr. D. Kringos (AMC; co-)

ESR9  | Host institution: BCE   | PhD enrolment Yes | Start date Month 7 | Duration 36 months | D2.1, D2.5  
**Project Title:** Building performance indicators in contract arrangements between insurers and health care providers (Related to WPs: 1, 2, 3, 4, 6)  
**Objectives:** To study how performance indicators can be used in financing health care services to promote the integrated delivery approach and help payers to use services which provide better value for money in terms of clinical effectiveness, patient safety and patient-centeredness, and to reduce ineffective health spending and waste.  
**Expected Results:** ineffective health spending and waste; equity in access; Performance area(s): inequity in access; Patient-centered integrated care.  
**Planned secondments:** Hosted at BCE. Secondment at OptiMedis (Germany; ≥6 months) to study how to optimize administrative databases for performance management. Secondment at insurer Generali (≤6 months) to evaluate existing databases to assess insurers incentives to be involved in the improvement of performance indicators. Supervisors: Prof. L. Gulaci (BCE; primary); Dr. O. Groene (OPTIMEDIS; secondary); Assoc. Prof. M. Pentek (BCE; co-); Dr. D. Kringos (AMC; co-)

ESR10  | Host institution:OptiMEDIS  | PhD enrolment Yes | Start date Month 7 | Duration 36 months | D3.1, D3.2  
**Project Title:** Improving uptake of performance reports via nudges (Related to WPs: 1, 2, 3, 4, 6)  
**Objectives:** Realise an improved uptake of performance reports by healthcare providers via nudges applying a novel, behavioural economics approach. A particular focus of the study will be the impact of nudges for different performance do-mains, e.g. clinical effectiveness and person-centred integrated services, and on metric that not only refer to composite outcomes, but to the distribution of such outcomes in a population (e.g. equity in access, utilisation and outcomes), a unique perspective widely disregarded by current performance reports.  
**Expected Results:** Person-centered integrated care; equity in access; reaching better outcomes.  
**Planned secondments:** Hosted at OptiMedis. Secondment at the HCHE (≥6 months) to test the impact of nudges on uptake of performance reports. Supervisors: Prof. Schreyögg (HCES; primary); Dr. O. Groene (OPTIMEDIS; secondary); Prof. S. Nuti (SSSA; co-)

ESR11  | Host institution: SURREY  | PhD enrolment Yes | Start date Month 7 | Duration 36 months | D3.1  
**Project Title:** The impact of automated international comparisons using routine large scale databases to improve diabetes care (Related to WPs: 1, 2, 3, 4, 6)  
**Objectives:** To implement and assess the impact of using an automated system of international comparisons in routine practice. The study will investigate the effect of targeted interventions (including smoking cessation, glycaemic control, and vascular risk management, foot care, vascular surgery) and different organizational arrangements (improved adherence, reduction of vascular risk, frequency of visits, integration of primary/specialist care, minor amputations, continuity of care, etc). Lower extremity complications (eg peripheral arterial disease, major amputations) will be used as a primary endpoint.  
**Expected Results:** Reaching better outcomes.  
**Planned secondments:** Defining new international standards to automate systems performance benchmarking in diabetes. Supervisors: Prof. S. de Lusignan/Prof. F. Carinci (SURREY; primary); Prof. J. Maina/Asc. Prof. S. P. Johansen (AUH/AU; secondary); Prof. D. Wake (UNIDUND; co-)

ESR12  | Host institution: SSA  | PhD enrolment Yes | Start date Month 7 | Duration 36 months | D3.1  
**Project Title:** Reputations counts: putting benchmarking at work (Related to WPs: 1, 2, 3, 4, 6)  
**Objectives:** To increase the actionability of regional performance evaluation systems through different practical tools, based on benchmarking and reputation issues.  
**Expected Results:** The research is expected to offer four kind of results: 1) Advance the scientific knowledge on how benchmarking can support policy making, defining
3.2 Appropriateness of the management structure and procedures

- Network organisation and management structure

The management structure of HealthPros is designed to ensure demographic representation of the network beneficiaries and the partners. The Network coordinator (N.Klazinga, AMC), and deputy-coordinator (D. Kringos AMC), are responsible for the overall management of the project and the financial and legal provisions. The network-training activities will be coordinated by WP4 Leader (BCE), together with the (deputy) coordinators Prof. Klazinga and Dr. Kringos (AMC), whom have successfully coordinated and/or participated in various EU funded projects. Taking into account the structure of the network, two-layers of decision making bodies are in place: The Supervisory Board (SB) (see next section) is the ultimate decision making body and is supported the Administrative Office (AO), and the Network Management Committee (NMC, see above Figure). The NMC will: • Monitor progress of all deliverables and milestones of the project; • Ensure implementation of the decisions taken by the supervisory board; • Maintain clear administrative procedures for internal communication and risk management. The NMC maintains direct contact with the SB. Right at the start of the ETN for HealthPros (M1) the NMC will appoint a neutral, third party that will monitor and provide advice on the overall progress, based on the progress reports they receive. The timing of the delivery of progress reports will occur in parallel to the progress reporting to the EC: EC: M13 (progress report), M24-26(first periodic report), M48-50(Final report). The Quality Management Committee (QMC) acts as the ESR platform and as for the role to establish a comprehensive quality management manual procedure for the network (how to manage data,
guaranteeing high quality). The Committee will provide guidance and template material which is intended to assist the ESRs in for example: authorship procedure, corporate templates for communication activities, data handling procedures and data management plan. The QMC includes the 13 ESRs acting as a board and RIVM. The 13 ESRs together with RIVM will have regular monthly updates and will establish communication with the SB to report on this process. In addition, the ESRs discuss in the QMC each other’s draft research plans, draft publications and data handling procedures. By providing constructive feedback on data handling approaches, the quality of the work guided by the AMC Research Code Quality Management Manual and the quality of all ongoing work will be benefited. The AO will support the NMC/SB management tasks with a dedicated experienced Project Manager located in the AMC alongside the Project Coordinator. The AMC coordinates a number of ITN. The AO based in the AMC oversees the financial management of the network (See 3.2.1 a). Network meetings will be held twice a year. During these meetings, all ESRs will present the progress of their project and discuss future plans. The location of the meetings will be rotated. NMC meetings will be held monthly by telephone or video conferences. All ESRs will be involved in the organization of at least one webinar on the topic of their individual research project open for the general public. The consortium will ensure links with members of the Immersion Community (see table 2.3.1) and with related FP7/Horizon2020 projects. The SB may invite coordinators of these EU projects during annual meetings to establish communication on the project’s outcomes. This will support the monitoring of HealthPros with debates and discussions. They are responsible for overseeing the quality of the network wide trainings of ESRs. An Ethics Advisor (EA) (Prof. J. Legemaate, professor in Health Law at the AMC), acting as an independent advisor to the SB, will be appointed at the start of the project. The role of the EA is to ensure that the project will comply with the national legislation and ethics. For possible ethical issues concerning personal data the HealthPros consortium will seek advice from the EA. The consortium will adhere to the following procedures: • Providing feedback to EA, on ethical issues arising within the HealthPros project, including issues on privacy, data protection, confidentiality and protection of dignity. • The EA will advise the SB on any actual/potential ethical issues arising within the project, and collaborate closely with the project coordinator for effectively dealing with those issues. Specific procedures and ethics approval will be collected and documented by the SB. Each partner will follow national regulations with respect to data collection, storage, protection, retention, destruction or re-use and confirm that they comply with relevant EU legislation.

**Supervisory Board**

The supervisory board (SB) is composed of one representative from all the beneficiaries and the partner organizations generating a balance of all sectors involved and a geographic coverage justifying the HealthPros goal towards Healthcare Systems challenges within European populations. In addition, 2 representatives from the ESRs will be members of the board on rotation basis. Decision making process: SB decisions are taken either at regular or extraordinary meetings or through email and/or teleconference voting. Although it is expected that decisions will be mainly consensus based, decisions can formally be made by voting; each party has one vote. Decisions require a simple majority. Voting mechanisms will be negotiated and fixed in the Consortium Agreement. The SB will be responsible for overseeing the quality and quantity of training of ESRs, and the quality and the quantity of supervision of the ESRs, the communication between coordinator and partners. The SB will monitor recruitment at the

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47 FP7/H2020, AIROPICCO, EPIMAC, GROWSPERM, SMARTER, ESA-ITN (H2020), HONOURS (H2020)
local sites applying equal opportunity in recruitment. For swift decision making, the NMC will implement the SB decision. The NMC members are Prof. Klazinga and Dr. Kringos (AMC), together with the WP leaders (see table 1.1). This committee will oversee day to day operations by having monthly teleconference meetings discussing the progress of the WPs and of the individual research projects.

Financial management strategy

HealthPros’ financial management will be the responsibility of the AMR (Academic Medical Research), the financial and administrative office of the AMC. AMR has a large track record in executing the budgets distribution and financial management for the European grants awarded in the AMC48. The resources allocation within the beneficiaries will be monitored by standard contracts. All beneficiaries’ institutions will be responsible for the local finances and payments to the fellows as well as EC reporting.

Strategy for dealing with scientific misconduct

The Network aims to prevent and, if necessary, correct scientific misconduct. For the independent judgment of possible allegations, the Network coordinator AMC will appoint an ombudsman for scientific integrity who is independent of the board of the AMC or the Network (the AMC Research Code49). The ombudsman will look into the matter in consultation with the plaintiff (whistle-blower) to see whether the suspicion is justified. The procedures to be followed will depend on the seriousness of the case and its consequences, legal and otherwise.

- **Recruitment strategy**

We will act in line with the principles of the European Charter for Researchers, European Code of Conduct for the Recruitment of Researchers, the Netherlands Code of Conduct for Scientific Practice, the HR Excellence in Research Logo, and the AMC Research Code for their recruitment. The AMC is an HRS4R50 Acknowledged Institution. At the kick off meeting, AMC (coordinator) will share its HR Logo Action plan with beneficiaries to promote harmonized HR practices and recruitment. All beneficiaries promote and endorse open recruitment. The recruited ESRs should have: • a completed Master’s degree in relevant discipline; BsC level depending on the local rules. • An affinity with performing research. • Satisfy the Marie Skłodowska-Curie Innovative Training Network eligibility and mobility requirements; • Vacancies will be advertised following institutional procedures to attract international visibility (including: Euraxess; international Newsletters (e.g. of the Health Services Research Europe Community; the European Public Health Association; European Observatory on Health Systems and Policies), journals (e.g. EuroHealth), Academic Transfer, national vacancy websites, LinkedIn websites of all Network partners, and the beneficiary’s websites and HealthPros’ Network website). Public centers will stimulate their Masters students to enroll as an ESR in the program. We expect a high number of reactions to the vacancies. Each beneficiary will have a local selection committee reviewing CVs for their ESR positions and will propose to the Network Management Committee max. 15 potentially top-profile candidates to be interviewed (for the first pre-selection interview round) by the Network Management Committee (of which the beneficiary is part of) by video conference or telephone. Each invited candidate will be asked to prepare a short presentation on a research project. Based on this first interview round, face-to-face interviews with max. 6 potential

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48 Mr. F. Groen and will be the overall Financial Project Controller
49 AMC Research Code: https://www.amc.nl/web/onderwijs/PhD-6/Research-code.htm
50 https://www.amc.nl/web/Research/ResearchAMC/HR-Excellence.htm
candidates for each ESR position will take place at the respective beneficiary (by their selection committee), on the basis of which a final decision will be taken by the local committee. The SB will monitor the recruitment for each ESR position. During all steps of the recruitment process we will give attention to gender aspects (see § 3.2 for further clarification).

- **Progress monitoring and evaluation of individual projects**

Progress monitoring will be ensured both at the individual level (the complete supervisory team has joint meetings every 1.5 months (teleconference or face-to-face) to evaluate the project progress together with the ESR), and at the WP level. The Supervisors will report monthly to the RTD and Training Work Packages leaders the progress of ESRs to prepare the NCMs. The same evaluation standards will be used across the network. A timeline for individual evaluation will be agreed with the ESRs and the supervisors. Each ESR will be evaluated on the progress of their project every 6 months during joint network meetings and will obtain feedback, input and possible re-examination. Each ESRs will be required to deliver at least two of three publications as first authors and to complete all ECTs credential of the training programme. The leader of each WP will have to write a monitoring report every 12 months, send all the milestones and deliverables and inform of any issues that may impact on the overall objectives. The coordinator will include the WP report in the periodic and final reports. In the SB, the status of the milestone plan will be evaluated and critical analysis of the achievements of the project will take place to make recommendations where necessary, during the timeframe of the program.

- **Intellectual Property Rights (IPR)**

A consortium agreement on intellectual properties (IPR) will be immediately after the grant approval. IPR issues are a key consideration in the Network. Details on access rights including open access, dissemination, co-authorship, publication strategy, and conditions for public release of data and use of results to the will be defined in the CA (see § 2.3). The supervisory board will establish a protocol (initiated by the WP6 Leader) for sharing and disseminating project results between beneficiaries/partners and external stakeholders.

- **Gender aspects**

We will ensure gender equality in each individual research projects, in decision-making and in recruitment. In the performance of individual research projects we will apply and build on WHO’s policy brief ‘How can gender equity be addressed through health systems?’51 For instance ESR 2 is dedicated to measuring and reducing disparity by gender in quality of health care. An appropriate gender balance will be respected in 1) the supervisory board (currently 31% female; aim 50%), 2) the ESRs’ (co-)supervisors (45% women), 3) the interview panels responsible (aim 50% female); the invited speakers (50% women), and the ESR recruits (aim 50% female). The gender balance at the network level is not yet met, with a 1/3 - 2/3 balance between women and men leads. The consortium is coordinated by a man (Prof. Klazinga) and a woman (Dr. Kringos). 12 out of 13 students will be supervised by a man and a woman each from a different research team. HealthPros training activities includes Gender in research.

### 3.3 Appropriateness of the infrastructure of the participating organisations

All recruiting beneficiaries have direct access to Graduate Schools locally or at affiliated academic institutions. This includes the graduate school programmes at HCHE (Fac. of Economics and Social Sciences) for ESR 5 and 10 recruited at OPTIMEDIS. AUH also has access to a similar academic curriculum for PhD fellows. Academic institutions will provide all ESRs housing support via International Offices, access to libraries and local Open Access repositories for the OA Green Route. In the AMC, the research support division includes a research office with expert staff advisors involved in grants support and in research policy. In addition, specific infrastructure is available at the beneficiaries and partner sites to undertake the research. For the conduct of their research all ESRs have access to local databases at the beneficiaries or partner organisations linked to the beneficiaries: ESRs will perform analysis locally when ethical considerations apply (see § 5).

3.4 Competences, experience and complementarity of the participating organisations and their commitment to the programme

- **Consortium composition and exploitation of partners’ complementarities**

The ambitious training goals of the Network requires a multidisciplinary approach bringing together complementarily and expertise of 7 academic and 9 non-academic private and public partners. The Network is based on previous interactions and collaborations of some of the partners and will build on this to bring together the multidisciplinary skills of previously fragmented knowledge and foster additional strong collaboration between partners across sectors in the field of healthcare performance intelligence. The consortium includes 2 frontrunners in Health Care Performance Intelligence from Canada to allow for cross-Atlantic learning effects of best practices.

- **Commitment of beneficiaries and partner organisations to the programme**

All beneficiaries and partner organisation are highly committed to the HealthPros Network. The consortium can provide key unmet training needs for future professionals in Health Care Performance measurement, management and utilisation. Key expertise areas include: benchmarking processes for health Systems and policy (Surrey, RIVM, DEP, CIHI, public and academic sectors), health analytics (OPTIMEDIS, NIHFA, GEN: private sector), health care management and performance indicators (AMC, BCE, HCHE, UNIBUND, IHPME, SSSA): Academic sector), health insurance sector (GEN), and data management and analysis (includes: AUH and AU). Geographical complementarity is also illustrated by the inclusion of large health care providers in the Netherlands (AMC) and in Denmark (AUH), health economics department in central and eastern Europe (BCE), and national health policy institutions (NL: RIVM; It: DEP, Canada: CIHI).
4. **GANTT Chart**

| Months | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
|--------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| ESR 1  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 2  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 3  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 4  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 5  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 6  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 7  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 8  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 9  | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 10 | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 11 | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 12 | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ESR 13 | S | S | S | S |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   | S | S | S | S |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Training | Workshop | 2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|          | Conferences$^{52}$ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|          | Visiting Scientists |   | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V | V |
| Management | Joint meetings | K | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 |
| Supervisory Board meetings |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Dissem. / Public Engagement | Dissem. |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Public Engagement |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

S = Secondment  
K = Kick-off meeting  
E = End of project

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$^{52}$ In addition to the scheduled conferences, ESRs will identify additional scientific and professional conferences to present their work and to network with stakeholders in the field.
5. Ethics Aspects

5.1 HealthPros: General Ethical Considerations

HealthPros will ensure compliance with the 'ethics requirements' as set out in work package 7. Promoting open science implies that data, results and publications are made accessible for a general public as much as possible. Healthcare touches upon public interests and is to a large extent funded with public goods. Moreover, making such information available facilitates international learning and exchange. Countries within Europe are in very different stages and in some countries performance assessments efforts are in very early stage. Such countries should be enabled to profit easily from the experiences of other countries. In practice, this means among others the publication of accessible infographics or executive summaries on top of scientific publications, an active dissemination of results within international networks and conferences, and making data available in the public domain.

The latter is limited by the requisite to protect the privacy of citizens and to avoid misuse of identifiable data. Through several projects within HealthPros we will explore the balance between the optimal utilization and sharing of health data to monitor performance on the one hand and respect for privacy on the other. Hereby, we will profit from the insights that came from an in-depth study on data-in strengthening health information infrastructure from OECD53. This study mapped a range of good practices and provides useful recommendations to shape such a balance.

Every HealthPros beneficiaries will comply with all relevant National and EU legislations (see table 5.1) relating to:

- The management of data and data privacy (Section 5.2, 5.3 below)
- Third country participation and data transfer (Section 5.4 below)
- Gender issues and research integrity (Section 5.5 below)

Provided that the proposal is approved for funding, the beneficiaries will adhere to the clause 34 (Ethics) of the MSCA Grant Agreement, with the application of the national laws and regulations. Each beneficiaries will take responsibilities to abide by the ethical clauses of the grant agreement. The ethical approvals will be transmitted to the Commission prior the start of the work.

The HealthPros network fully conform to national legislation and applicable codes of conduct. The rules most relevant to the project are:


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Respect fundamental ethics principles, including those reflected in the Charter of Fundamental Rights of the European Union and the ethics rules of H2020.


HealthPros does not involve human research participants. We only involve individuals directly via research methods such as surveys, interviews or focus groups.

5.2. Access of data

The HealthPros Network respects fundamental ethics principles, including those reflected in the Charter of Fundamental Rights of the European Union, and all national data protection laws of the countries involved in this project. The Network will obey the need to ensure the freedom of research and the need to protect the physical and moral integrity of individuals and the welfare of animals. The Network acknowledges that research ethics is of crucial importance for all scientific domains, and that informed consent and confidentiality are as important for a sociological study as they are for clinical research. The Network has indicated in the ethical issues table in Part A that secondary data will be used from a number of countries. We therefore describe in tables 6.1 and 6.4 for each country the measures that will be taken to obey national and international ethical principles. Through several ERS projects, HealthPros will assess the impact (in terms of legal requirements) of the adoption of the EU General Data Protection Regulation.

<table>
<thead>
<tr>
<th>Country</th>
<th>Data sources sensitive for ethics</th>
<th>Measures that will be taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>Dutch healthcare performance report (RIVM) data; Interviews with stakeholders</td>
<td>All data are treated in accordance with the Dutch privacy protection act. Individual data are used, are pseudonomized by a trusted third partner using algorithmic techniques. Most personal data are accessed using a remote access facility of Statistics Netherlands. This remote access facility is a closed room that can only be entered by authorized persons, that must identify themselves by fingerprint. (pseudonomized) data can be accessed, but not be downloaded. All output will be checked by Statistics Netherlands before made available to the researcher. Separate permission for using remote access must be given at organizations (by the director general of</td>
</tr>
</tbody>
</table>

HealthPros 76141

SN), projects and individual researchers. RIVM have been working for many years with remote access. all details about rules and procedures can be found at http://www.cbs.nl/en-GB/menu/informatie/beleid/zelf-onderzoeken/default.htm?Languageswitch=on

Consent will be obtained from any interviewees prior to commencing the interview and all interviews will be confidential and no identifying characteristics of interviewees will be reported.

Denmark

Danish National Clinical Quality Registry (incl. regional data)

All routinely collected data used in this analysis are pseudonymized and is protected using algorithmic techniques against residual disclosure. Moreover, all such data are in moated computing facilities that prevent the transfer of data. All interview and case study data will be stored using password protected computer files and computers and will be destroyed 12 months after publication. Consent will be obtained from any interviewees prior to commencing the interview and all interviews will be confidential and no identifying characteristics of interviewees will be reported.

Germany

Administrative data from OPTIMEDIS

All patient related data that is handled by OPTIMEDIS is pseudonomised. Pseudonymisation is done by independent bodies before the data is sent to OPTIMEDIS for analyzing. OPTIMEDIS holds information of the provider organizations submitting data, so that relevant multi-level analysis can be conducted to account for between-provider variations in case-mix and outcomes, and such analysis be used to construct feedback reports for individual providers (hospitals or primary care practices). Additional consents for the anonymized data already held by OPTIMEDIS are not required. All data will be handled in accordance with legal requirements and any additional specific arrangements that were agreed with data providers at the outset of the project.

UK

GP Databases of the Royal College Of General Practitioners Research and Surveillance Centre(RCGP RSC)

The Centre based at the Department of Clinical and Experimental Medicine, University of Surrey, works within NHS Information and Research Governance frameworks and complies with all legal data protection requirements. The research Group has successful met the requirements of NHS IG Toolkit requirements (level 2 for all applicable requirements for Hosted Secondary Team/Project) since 2013. Our current NHS IGTK score is 77%. The RCGP RSC Offices are located in the third floor (Floor 02) of the Leggett Building at the University of Surrey. There is an alarm system covering entrances to the building. Entrance to all departments within the Leggett Pearce Building is controlled by individualised role-based swipe card access. The local gatekeeper authorises access rights for their relevant buildings, issues swipe cards appropriate to the level of access for staff members, and notifies Central Security of the
removal of any access rights. All offices are individually locked and keys to these offices are issued by the gatekeeper to the individual occupants (academic, administrative and support staff and research students on placements) of these offices. Master keys are held by a small number of authorised staff such as the local Gatekeeper and the receptionist; master keys are locked out of sight or carried on their person during working hours. The university campus has a dedicated Security Department with 24/7 cover support system to deal with emergencies. Outside office hours, patrols of the campus are made by security personnel, which includes patrols of the Leggett Building. Patient level databases are held in the database server within the Research Group’s secure network. All staff members of the Research Group working within the team base work from secure workstations or secure laptops with encrypted drive within the Research Group’s secure network. The secure network is located behind a firewall within the University’s network, all in-bounded connections are blocked, but out-bounded connections are allowed. Risk assessment of the physical security of the premises of the Research Group therefore needs to consider the physical security of (1) the offices where the workstations and (2) the rooms where the database and analysis servers are located. There are two main data centres used in the University, Manor Park data centres (MPDC) and Austin Pearce data centres (APDC). Both data centres have a high degree of physical security, with 24x7 monitoring and alarmed to the University Security Team. Each data centres is protected against power loss through UPS and generator technologies and are further protected against fire through the use of fire suppressant. Access to the data centres is controlled by the central IT Operations team, with access in and out of each data centres monitored and recorded. Only authorised IT staff are able to enter the data centres, and they must be accompanied by a member of the operations team. Emergency access can be achieved via the on-call team and the University Security team.

The University of Surrey acts as the data and analysis hub for the RCGP RSC since March 2015, where the database is maintained by University of Surrey specialists. The University of Surrey is registered with the Data Protection Register and is compliant with the Data Protection Act and other legislations. Where required, patient data is pseudonymised using a non-reversible algorithm and all data is uploaded to the Research Group's private SQL server, located within secured premises, and only accessible to authorised members of the team. There are strict policies in place regulating the storage and access of all patient data, which can be found here:

http://clininf.eu/about/information-governance.html . Our
data analysis servers are optimized for routine healthcare data processing to provide faster deliveries for our projects.

SCI-diabetes contains data from a national integrated diabetes registry from around 290,000 patients across Scotland. A regularly updated maintained cleaned anonymized extract is maintained for research purposes under Caldicott agreements. This dataset may be utilised if appropriate for PhD projects.

### Italy

**Italian administrative databases and survey data to patients and providers**

The research projects will be based on both aggregate and anonymized individual data from administrative data sources and statistical surveys. Data are provided through an official agreement with either regional and national Health Administration, respecting National Law.

### Hungary

**Financial data of a Hungarian private health insurance company**

The claim database of Generali Insurance Company will be analyzed in the project of ESR9. The database contains data on the basic socio-demographic characteristics of the policy holders and claim data (expenses, services used, provider). The use of data is subject to Ethical Approval. A research proposal will be sent the Ethical Committee of the Medical Research Council in Hungary (Egészségügyi Tudományos Tanács Tudományos és Kutatási Bizottság https://ett.aeek.hu/) explaining the aim of the research and providing detailed description of variables used in the analysis to obtain Ethical approval. Individual data will be pseudoanomized by the parties before researchers can access the database. Only anonymized data will be used. All data will be handled in accordance with legal requirements any additional specific arrangements that the data holder (Generali) requires at the outset of the project.

No ethical approval is necessary in Hungary to collect data on consumer preferences. We will target the general population, not patients, thus it does not require any ethical approval. Consent will be obtained from any interviewees prior to commencing the interview and all interviews will be confidential and no identifying characteristics of interviewees will be reported.

### 5.3 Data Protection

The Data Protection Directive is the main European legislation reference for the HealthPros Project. Through several ERS projects, HealthPros will assess the impact (in terms of legal requirements) of the adoption of the EU General Data Protection Regulation. The main partner (AMC) has established a Data Protection Officer (Mrs. Marleen Inga), who will oversee that all data collection and processing will be carried out according to EU and national legislation.

HealthPros beneficiaries and partners will ensure:
- Compliance with the original study consent for which data has been collected.
- Personally Identifiable Information (PII) is adequately protected
- Ensure that anonymisation/de-identification is conducted appropriately
- Ethical review in case this is required (see table 5.1)

Each HealthPros member will be responsible for the safeguard of the Personal identifiable information to be processed in compliance with relevant legislation and guidance, including the principles contained in the World Medical Association Declaration of Helsinki on the Ethical Principles for Medical Research Involving Human Subjects (2008).

Each HealthPros member will be responsible for the confidentiality and security of person information and for complying with their own SOPs and any relevant legal requirements. Personal identifiable information will be processed in compliance with relevant legislation and guidance, including the principles contained in the World Medical Association Declaration of Helsinki on the Ethical Principles for Medical Research Involving Human Subjects (2008). In general terms the appropriate data protection principles will be observed, including:

- Data are fairly and lawfully processed;
- Data are used only in ways that are compatible with the original consent;
- The amount of data collected is relevant and not excessive;
- All reasonable efforts are taken to ensure data accuracy;
- The data are used in accordance with the rights of the study participant;
- The data are stored securely;
- The relevant international and national guidance will be consulted.

**5.4 Third Countries requirements**

Canada is involved in HealthPros as a Third country. The planned activities in Canada are based on unique knowledge and infrastructure that are currently not available in an EU country. All activities carried out in Canada will be take place in accordance to the Horizon 2020 ethics rules. There will not be any transfer of personal data from the EU to Canada.

<table>
<thead>
<tr>
<th>Table 5.4 Ethical self-assessment for Third Country Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Country</strong></td>
</tr>
<tr>
<td>Partner organization:</td>
</tr>
<tr>
<td>Canada</td>
</tr>
</tbody>
</table>
and computers and will be destroyed 12 months after publication. Consent will be obtained from any interviewees prior to commencing the interview and all interviews will be confidential and no identifying characteristics of interviewees will be reported.

5.5 Ethical issues in relation to gender and research integrity

An Ethics Advisor (EA) (Prof. J. Legemaate, professor in Health Law at the AMC), acting as an independent advisor to the SB, will be appointed at the start of the project. The role of the EA is to ensure that the project will comply with the national legislation and ethics. For possible ethical issues concerning personal data the HealthPros consortium will seek advice from the EA. The consortium will adhere to the following procedures: 1. Providing feedback to EA, on ethical issues arising within the HealthPros project, including issues on privacy, data protection, confidentiality and protection of dignity. 2. The EA, will advise the SB on any actual or potential ethical issues arising within the project, and collaborate closely with the project coordinator for effectively dealing with those issues. Specific procedures and ethics approval will be collected and documented by the SB. Each partner will follow national regulations with respect to data collection, storage, protection, retention and destruction or reuse and confirmation that they comply with relevant EU legislation.

Data collected may contain gender specific information. The Network will take the necessary precautions to guarantee research integrity. AMC (coordinating institution) endorses the European Charter for Researchers and European Code of Conduct for the Recruitment of Researchers and implemented the HR Excellence in Research Logo. We will act in line with the principles of the European Charter for Researchers, European Code of Conduct for the Recruitment of Researchers, the Netherlands Code of Conduct for Scientific Practice, the HR Excellence in Research Logo, and the AMC Research Code for their recruitment. The AMC is an HRS4R Acknowledged Institution. At the kick off meeting, AMC (coordinator) will share her HR Logo Action plan with the beneficiaries to promote harmonized practices.

The Network aims to prevent and, if necessary, correct scientific misconduct. For the independent judgment of possible allegations, the Network coordinator AMC will appoint an ombudsman for scientific integrity who is independent of the board of the AMC or the Network (the AMC Research Code). The ombudsman will look into the matter in consultation with the plaintiff (whistle-blower) to see whether the suspicion is justified. The procedures to be followed will depend on the seriousness of the case and its consequences, legal and otherwise.

55 https://www.amc.nl/web/Research/ResearchAMC/HR-Excellence.htm
56 AMC Research Code: https://www.amc.nl/web/Onderwijs/PhD-6/Research-code.htm
Marie Skłodowska-Curie Actions (MSCA) Innovative Training Networks (ITN) H2020-MSCA-ITN-2017

Annex 1 to the Grant Agreement (Description of the Action) Part B HealthPros – Projectnr. 765141
### ESTIMATED BUDGET FOR THE ACTION (page 1 of 2)

**Estimated eligible costs (per budget category)**

<table>
<thead>
<tr>
<th>A. Costs for recruited researchers</th>
<th>B. Institutional costs</th>
<th>Total costs</th>
<th>Reimbursement rate %</th>
<th>Maximum EU contribution</th>
<th>Maximum grant amount</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Form of costs</th>
<th>Unit</th>
<th>Unit</th>
<th>Unit</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Total a</td>
<td>Costs per unit</td>
<td>Total b</td>
<td>Costs per unit</td>
</tr>
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<td>Total consortium</td>
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<td>1553445.00</td>
<td>280800.00</td>
<td>117000.00</td>
</tr>
</tbody>
</table>
1 See Article 6 for the eligibility conditions.
2 This is the theoretical amount of EU contribution that the system calculates automatically (by multiplying all the budgeted costs by the reimbursement rate). This theoretical amount is capped by the 'maximum grant amount' (that the Commission/Agency decided to grant for the action) (see Article 5.1).
3 The 'maximum grant amount' is the maximum grant amount decided by the Commission/Agency. It normally corresponds to the requested grant, but may be lower.
4 The indirect costs covered by the operating grant (received under any EU or Euratom funding programme; see Article 6.3(b)) are ineligible under the GA. Therefore, a beneficiary that receives an operating grant during the action's duration cannot declare indirect costs for the year(s)/reporting period(s) covered by the operating grant (i.e. the unit cost for management and indirect costs will be halved for person-months that are incurred during the period covered by the operating grant).
5 See Article 5 for the form of costs.
6 See Annex 2a 'Additional information on the estimated budget' for the details on the costs per unit.
7 Total = costs per unit x number of units (person-months)
8 The amount for the family allowance inserted by the system represents an average (with/without family). For the financial statements (Annex 4), this amount will be adjusted according to the actual family status of the recruited researchers (as specified in the 'researcher declaration').


## ADDITIONAL INFORMATION ON THE ESTIMATED BUDGET

### Marie Skłodowska-Curie unit costs

#### MSC-ITN unit costs

#### Costs for the recruited researcher(s) — Living allowance

**Units:** months spent by the researcher(s) on the research training activities ('person-months')

**Amount per unit:** see Annex 2

* Amount calculated as follows:

\[ \text{Amount} = \frac{3110,00 \text{ EUR}}{\text{country-specific correction coefficient of the country in which the researcher is recruited}} \]

**Country-specific correction coefficient (in force at the time of the call):**

### EU Member States

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<tr>
<th>country</th>
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<th>country</th>
<th>coefficient</th>
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<th>coefficient</th>
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### H2020 associated countries

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### Other countries

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</table>
Estimated number of units: see Annex 2

Costs for the recruited researcher(s) — Mobility allowance

Units: months spent by the researcher(s) on the research training activities (‘person-months’)

Amount per unit: see Annex 2

Estimated number of units: see Annex 2

Costs for the recruited researcher(s) — Family allowance

Units: months spent by the researcher(s) on the research training activities (‘person-months’)

Cost Amount per unit: see Annex 2

Estimated number of units: see Annex 2

Institutional costs — Research, training and networking costs

Units: months spent by the researcher(s) on the research training activities (‘person-months’)

Amount per unit: see Annex 2

Estimated number of units: see Annex 2

Institutional costs — Management and indirect costs

Units: months spent by the researcher(s) on the research training activities (‘person-months’)

Amount per unit: see Annex 2

---

1 Same amount for all beneficiaries.
Amount for the mobility allowance set out in the Main Work Programme — MSCA in force at the time of the call.

2 Same amount for all beneficiaries.
Average based on the amount for the family allowance set out in the Main Work Programme — MSCA in force at the time of the call (half of the number of units with family, half without).

3 Same amount for all beneficiaries.
Amount for research, training and networking costs set out in the Main Work Programme — MSCA in force at the time of the call.

4 Same amount for all beneficiaries.
Amount for management and indirect costs set out in the Main Work Programme — MSCA in force at the time of the call.
Estimated number of units: see Annex 2
ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

REGION NORDJYLLAND (NORTH DENMARK REGION) (AUH), established in Niels Bohrs Vej 30, AALBORG 9220, Denmark, (‘the beneficiary’), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No (‘2’) in Grant Agreement No 765141 (‘the Agreement’) between Academisch Medisch Centrum bij de Universiteit van Amsterdam and the Research Executive Agency (REA) (‘the Agency’), under the powers delegated by the European Commission (‘the Commission’),

for the action entitled ‘Healthcare Performance Intelligence Professionals (HealthPros)’.

and mandates

the coordinator to submit and sign in its name and on its behalf any amendments to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

Anette SLOTH with ECAS id nslotane signed in the Participant Portal on 05/09/2017 at 09:56:45 (transaction id SigId-60120-
mlJnzwQL8ypYPi0W8C7H6QP1Qb8l9OKOiBiZzeYLDs2ScGTzrbRKAAaq69zmzQ70zlw0HFnuOeCeli5GhCaCCKm-
Jj71zxYb8yrN6HT4pVHCoC-eiroXYULzrOTNqcWwTqCcCqMvaEhxbn5SjpCkKx8Cu). Timestamp by third party at
Tue Sep 05 10:56:58 CEST 2017
ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

OPTIMEDIS AG (OPTIMEDIS), established in BURCHARDSTRASSE 17, HAMBURG 20095, Germany, VAT number: DE227566961, (‘the beneficiary’), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No (‘3’)

in Grant Agreement No 765141 (‘the Agreement’)

between Academisch Medisch Centrum bij de Universiteit van Amsterdam and the Research Executive Agency (REA) (‘the Agency’), under the powers delegated by the European Commission (‘the Commission’),

for the action entitled ‘Healthcare Performance Intelligence Professionals (HealthPros)’.

and mandates

the coordinator to submit and sign in its name and on its behalf any amendments to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

Oliver GROENE with ECAS id ngrooeov signed in the Participant Portal on 12/09/2017 at 11:32:04 (transaction id SgId-117831- oAoA6XmmzkoM91Zrzmh1ihh97MNOONb9QcV51Yw3pRxv vMu80xX8R9XuiUnG2V0kjuJufaEPpLZBvzzqSsyHshbFIC- J71ZxYbSyfN6HT4pVHC0C- jh0YddgylZwxBjonNQAzub4EFzxoLjF1SyX90Bgze).
Timestamp by third party at Tue Sep 12 12:32:27 CEST 2017
ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

UNIVERSITY OF SURREY (SURREY), established in Stag Hill, GUILDFORD GU2 7XH, United Kingdom, VAT number: GB688953065, (‘the beneficiary’), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No (‘4’)
in Grant Agreement No 765141 (‘the Agreement’)

between Academisch Medisch Centrum bij de Universiteit van Amsterdam and the Research Executive Agency (REA) (‘the Agency’), under the powers delegated by the European Commission (‘the Commission’),

for the action entitled ‘Healthcare Performance Intelligence Professionals (HealthPros)’.

and mandates

the coordinator to submit and sign in its name and on its behalf any amendments to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

Sue ANGULATTA with ECAS id nangulse signed in the Participant Portal on 31/08/2017 at 15:56:47 (transaction id SigId-39792- vhHJ0L41nyYfTaW1Ply0Q3o6qB50kexlf48G5wMeEpibPA3pFcc5INH1v8x4Mo0XJxdaU1AgbqfPWC7duKNFW4Qm-Jj71zxYb8yrN6HT4pVHC0C-
ACCESSION FORM FOR BENEFICIARIES

SCUOLA SUPERIORE DI STUDI UNIVERSITARI E DI PERFEZIONAMENTO SANT'ANNA (SSSA), established in PIAZZA MARTIRI DELLA LIBERTA 33, PISA 56127, Italy, VAT number: IT01118840501, (‘the beneficiary’), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No (‘5’)

in Grant Agreement No 765141 (‘the Agreement’)

between Academisch Medisch Centrum bij de Universiteit van Amsterdam and the Research Executive Agency (REA) (‘the Agency’), under the powers delegated by the European Commission (‘the Commission’),

for the action entitled ‘Healthcare Performance Intelligence Professionals (HealthPros)’.

and mandates

the coordinator to submit and sign in its name and on its behalf any amendments to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

Pierdomenico PERATA with ECAS id npepierd signed in the Participant Portal on 31/08/2017 at 12:38:01 (transaction id SigId-36123-nq4HFZ7ertgzGWYTBdDYAhqesDIxIO4ZgjziLqijHBRdeDfJeiXzwFWDcgrTQRFNq4L9zh8OeCekKBER6zLYXGCEm--Jj71zxYb8yrN6HT4pVHCoC-
ANNEX 3

ACCESSION FORM FOR BENEFICIARIES

BUDAPESTI CORVINUS EGYETEM (BCE), established in FOVAM TER 8, BUDAPEST 1093, Hungary, VAT number: HU15329743, (‘the beneficiary’), represented for the purpose of signing this Accession Form by the undersigned,

hereby agrees

to become beneficiary No (’6’)

in Grant Agreement No 765141 (‘the Agreement’)

between Academisch Medisch Centrum bij de Universiteit van Amsterdam and the Research Executive Agency (REA) (‘the Agency’), under the powers delegated by the European Commission (‘the Commission’),

for the action entitled ‘Healthcare Performance Intelligence Professionals (HealthPros)’.  

and mandates

the coordinator to submit and sign in its name and on its behalf any amendments to the Agreement, in accordance with Article 55.

By signing this Accession Form, the beneficiary accepts the grant and agrees to implement it in accordance with the Agreement, with all the obligations and conditions it sets out.

SIGNATURE

For the beneficiary

András LÁNCZI with ECAS id roroozs signed in the Participant Portal on 31/08/2017 at 09:09:16 (transaction id SigId-32462-
hrFWTohvlazYQie97uzkIotZCD5wqzSHLq4vloSj7UhBtr
G9eATzzZntshVrm93SsnE1eNJrQKzzz42AQjxC-
Jj71zxYb8yrN6HT4pVHCoC-
# MODEL ANNEX 4 FOR H2020 MGA MSCA-ITN — MULTI

## FINANCIAL STATEMENT FOR BENEFICIARY [name] FOR REPORTING PERIOD [reporting period]

<table>
<thead>
<tr>
<th>Eligible costs (per budget category)</th>
<th>EU contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Costs for recruited researchers</strong></td>
<td><strong>B. Institutional costs</strong></td>
</tr>
<tr>
<td>A.1 Living allowance</td>
<td>A.2 Mobility allowance</td>
</tr>
<tr>
<td>Costs per unit</td>
<td>Costs per unit</td>
</tr>
<tr>
<td>Total a</td>
<td>Total b</td>
</tr>
<tr>
<td>g</td>
<td>h</td>
</tr>
</tbody>
</table>

**Form of costs**

<table>
<thead>
<tr>
<th></th>
<th>Unit</th>
<th>Unit</th>
<th>Unit</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Costs per unit</td>
<td>Total a</td>
<td>Costs per unit</td>
<td>Total b</td>
<td>Costs per unit</td>
</tr>
<tr>
<td></td>
<td>Total d</td>
<td>Costs per unit</td>
<td>Total e</td>
<td></td>
</tr>
</tbody>
</table>

**Total beneficiary**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total beneficiary</td>
<td>Total beneficiary</td>
</tr>
</tbody>
</table>

**Checkbox 1:**

I confirm that the total amount of the allowances used (including compulsory deductions) for the researcher is equal to or higher than the living allowance, the mobility allowance and the family allowance as set out in Annex 2 of the Agreement or that any underpayments in Reporting Period 1 will be corrected by the end of the action.

**Checkbox 2:**

Did you receive any EU/Euratom operating grant during this reporting period? ☑ YES ☐ NO

If yes, pls indicate how many of the total person-months (see 'total beneficiary' above) were incurred DURING the period covered by the operating grant?

<table>
<thead>
<tr>
<th>Name of the fellow</th>
<th>Number of units (person-months)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The beneficiary hereby confirms that:

The information provided is complete, reliable and true.
The costs declared are eligible (see Article 6).
The costs can be substantiated by adequate records and supporting documentation that will be produced upon request or in the context of checks, reviews, audits and investigations (see Articles 17, 18 and 22).

---

1 See Article 6 for the eligibility conditions
2 The indirect costs claimed must be free of any amounts covered by an operating grant (received under any EU or Euratom funding programme; see Article 6.3(b)). If you have received an operating grant during this reporting period, indirect costs will not be reimbursed for the person-months incurred during the period covered by the operating grant.
3 See Article 5 for the forms of costs
4 See Annex 2a ‘Additional information on the estimated budget’ for the details on the costs per unit.
5 Total = costs per unit x number of units (person-months)
6 Name of the researcher and related units for living (A.1) and family (A.3) allowances will be prefilled on the basis of the information provided by the beneficiary in the ‘researcher declaration’
This document is digitally sealed. The digital sealing mechanism uniquely binds the document to the modules of the Participant Portal of the European Commission, to the transaction for which it was generated and ensures its integrity and authenticity.

Any attempt to modify the content will lead to a breach of the electronic seal, which can be verified at any time by clicking on the digital seal validation symbol.