



Advancing Care Coordination  
and Telehealth Deployment

## **ACT Programme**

### **Annex B to Deliverable 7**

#### **Opimec survey**

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## I OPIMEC survey

### I.1 Risk Stratification Survey

#### I.1.1 Email letter and Survey Cover page

**This survey collects information on key features of risk stratification models**

Dear ACT partner:

Welcome to this survey about characteristics and implementation of predictive models for risk stratification applied to people with chronic diseases.

We ask your cooperation in completing this survey because you have developed and / or implemented a risk stratification model. If you know any other person able to provide information, please provide his/her contact details to [andres.cabrera.easp@juntadeandalucia.es](mailto:andres.cabrera.easp@juntadeandalucia.es).

The information will be analysed by members of the Area Risk Stratification Action group B3 of the EIP on AHA and members of ACT EU project. The results will be used to assess the different models that are being developed in Europe.

Please complete the survey before **Friday 28<sup>th</sup> of February**. If you identify any error or substantial improvement area in the survey, we would greatly appreciate your feedback.

Thank you in advance for your interest and support!

There are 57 questions in this survey

#### I.1.2 Introduction

**Please specify below the predictive model implemented in you work setting, entering the reference model, showing longer user range or best results.**

**If you have developed more models we would really appreciate that you fulfill another survey, once you finalize this one, directly from the same email in which you received the first invitation.**

**\* Please select at least 3 answers**

Name of the model

Brief description (90 words max.)

Reference Organization/s

**Which part of the model are you describing? \***

Please choose **all** that apply:

Statistical model

Tool (calculator, scale,...)

Platform web app

Predictive  
Model




Desktop app

Other:

**Scope of the model? \***

Please choose **all** that apply:

GP's office

Hospital

Area, district

Region

Country, state

Other:

**[ ] Type of model \***

Please choose **all** that apply:

Individual stratification

Population stratification

Other:

Please select only one answer

**[ ]**

**Please introduce name, surname and email of people participating in the development of the model/tool/platform.**

**(Apart from identifying the working teams on risk stratification models, we intend to share with them the results of this survey).**

Person 1

Person 2

Person 3

Person 4

Name and  
surname


**[ ]**

**Is the working team in risk stratification model development the same as the team working in the implementation of the model?**

Please choose **only one** of the following:

Yes

No

Model not implemented yet



Please select only one answer

### 1.1.3 Information on the VARIABLES of the model

Next we are asking some information related to the model identified as the **reference model**

**If you use more than one risk prediction model** we kindly ask you to fulfill another survey, once you finalize this one, directly from the same email in which you received the first invitation.

**Select below which events or variables and terms are used as dependent or result variables to classify people with chronic conditions with increased risk of:**

Please select at least one answer

- |                                 |                          |
|---------------------------------|--------------------------|
| Unplanned hospital admission    | <input type="checkbox"/> |
| Unplanned hospital readmission  | <input type="checkbox"/> |
| Unplanned hospital days         | <input type="checkbox"/> |
| Death                           | <input type="checkbox"/> |
| Functional decline              | <input type="checkbox"/> |
| Cognitive decline               | <input type="checkbox"/> |
| Pharmacy expenditure            | <input type="checkbox"/> |
| Expenditure on additional tests | <input type="checkbox"/> |
| Transportation expenditure      | <input type="checkbox"/> |
| Health costs                    | <input type="checkbox"/> |
| Health resource consumption     | <input type="checkbox"/> |
| Social resource cost            | <input type="checkbox"/> |
| Other events or variables       | <input type="checkbox"/> |

**Please specify other events or variables**

Please write your answer here:

**Now select which variables you are using in the model as explanatory or independent variables:**

Please select at least 2 answers

Please choose **all** that apply:

- |                          |                       |
|--------------------------|-----------------------|
| <input type="checkbox"/> |                       |
| <input type="checkbox"/> | Age                   |
| <input type="checkbox"/> | Sex                   |
| <input type="checkbox"/> | Location              |
| <input type="checkbox"/> | Diagnostics           |
| <input type="checkbox"/> | Stage of the disease  |
| <input type="checkbox"/> | Visits annual average |



- 
- Urgent visits
  - Dispensing drugs after diagnosis
  - Annual average hospital stay
  - Days stays (not planned)
  - Number of hospitalizations
  - Number of outpatient visits
  - Rates of cognitive impairment (Barthel, ...)
  - Comorbidity (Charlson, Elixhauser, ACG, GRGs, ICC, ...)
  - Polypharmacy
  - Previous costs
  - Other:

**Which statistical models are used?  
(Please select at least 1 answer)**

Please select at least one answer

Please choose **all** that apply:

- Linear Regression.
- Logistic Regression.
- Poisson regression.
- Cox Regression.
- Other:

**The aim of the model is:**

Please select at least one answer

Please choose **all** that apply:

- Holistic (social and health)
- Health-care oriented
-



Social-care oriented

Other:

### 1.1.4 Characteristics of the model

Next we will ask about some of the characteristics of the reference model that you implemented

#### **What sample size did you use to build up the model?**

Please write your answer here:

*Only numbers can be entered in this field*

#### **How big is the population targeted by the model?**

Please write your answer here:

*Only numbers can be entered in this field*

#### **What criteria are considered for Inclusion of an individual to the study population?**

##### **Check any of these:**

Please choose **all** that apply:

Age

Previous admission.

Diagnosis.

Individual assigned to a primary care team.

Result of the stratification.

Other:

##### **Check any of these:**

#### **Which are the exclusion criteria from the target population?**

Please write your answer here:

#### **What statistical results are used in the predictive model? Please select at least one answer:**

Please select at least one answer

Please choose **all** that apply:

Odds Ratio (OR)



- Relative Risk.
- Probability / percentage.
- Other:

**What other statistical parameters are obtained from the predictive model? Check any of these:**

Please choose **all** that apply:

- Confidence intervals (CI).
- R squared.
- Positive Predictive Value (PPV).
- Negative Predictive Value (NPV).
- Sensitivity.
- Specificity.
- Area under the curve (AUC).
- Other:

### 1.1.5 Information Exploitation

**Has a software been developed for the use of the tool? \***

Please choose **only one** of the following:

- Yes
- No
- In development

**Please specify the name of the Software below \***

**Only answer this question if the following conditions are met:**

Answer was NOT 'No' at question '19 [p9\_sw]' (Has a software been developed for the use of the tool? )

Please write your answer here:

**Is this software linked to a data exploitation Platform? \***

Please choose **only one** of the following:

- Yes
-



---

No

In development

**Please specify the name of the Platform below**

**Only answer this question if the following conditions are met:**

Answer was NOT 'No' at question '21 [p9\_swlinked]' (Is this software linked to a data exploitation Platform?)

Please write your answer here:

**Is the software free?**

Please choose **only one** of the following:

Yes

No

**Is there any license?**

Please choose **only one** of the following:

Yes

No

**Do you provide the license to interested users?**

**Only answer this question if the following conditions are met:**

Answer was 'Yes' at question '24 [p9\_license]' ( Is there any license? )

Please choose **only one** of the following:

Yes

No

**Do you provide training to other organizations wanting to use the tool?**

Please choose **only one** of the following:

Yes

No

**Is this platform integrated with the Databases of the Organization?**

Please choose **only one** of the following:

Yes

No



In development

**Please select the sources of information used for the construction of the model and where appropriate, please state why certain sources are not used**

Please select at least one answer

Unified Medical Record

USED in the  
model

Primary Care Medical Record

Specialized Care Medical Record

Pharmacy (prescription registry)

Minimum basic data set (MBDS)

Health Surveys

**Please specify other source/s of information the model might be using**

Please write your answer(s) here:

1

2

3

**How many suppliers are providing the information?**

Please choose **only one** of the following:

One

Two

Three or more

**Barriers to implementation**

Please choose **all** that apply:

Legal

Economic

Human resources

Time



Others (e.g.: difficulty moving from research to hospitals, from pilot to scale )

**Is the data for risk stratification analysis available in the Health System?**

Please choose **only one** of the following:

Yes

No

## I.1.6 Change management

**Please check below for answers that refer to the 'reference model'.**

**Check any that apply:**

Please choose **all** that apply:

Leaders of the health centers are involved and participate in the model.

Leaders are identified with this model

Clinicians (doctors and nurses) are involved and understand how it works (e.g, if you ask doctors what the intervention is, are they able to describe and explicitly support?).

There have been briefings / training in the centers and for clinicians about the potential of the tool.

We have defined a system to collect information at the clinical level to detect areas for improvement

Stratification is integrated into the patient's medical history and therefore is displayed in single or shared clinical history.

The visualization of stratification is shared by the different levels of care

We have developed an application or platform to publish the results.

Stakeholders (end users) are interconnected

Data for end users is available, such as process-relevant data or data stream.

There is the possibility to generate lists of people with certain levels of risk.

The population included in the model is stable over time

Pathways are defined for recruiting stratified patients.



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It is possible to monitor and analyze coverage, monitoring of patients selected by stratification (it has established a monitoring and evaluation plan).

A system has been established to collect incidents by end users (healthcare, managers, etc...) in the model implementation.

**How is the recruitment of the patients done?**

Please choose **all** that apply:

Telephone

Regular mail

Email

Other:

**What agents are responsible for the recruitment?**

**Only answer this question if the following conditions are met:**

Answer was 'The population included in the model is stable over time' at question '33 [copia P13]' ( Please check below for answers that refer to the 'reference model'. Check any that apply: )

Please select at least one answer

Please choose **all** that apply:

Primary Care Doctor/General Practitioner

Primary Care Nurse

Secondary Care Doctor

Enfermero/a de Atención Especializada

Other:

### 1.1.7 Patient recruitment

**Which periodicity of update has been defined for stratification?**

Please choose **all** that apply:

None

Daily

Weekly

Monthly



- Quarterly
- Semiannual
- Annual
- Other:

Please select only one answer.

**Which utility is being given to the stratification? (please add information in case of Other)**

Please select at least one answer

Please choose **all** that apply:

- 
- Currently none
- Informative
- Selection of the intervention population
- Other:

**What variables are used for the selection of target populations?  
Check any that apply:**

**Only answer this question if the following conditions are met:**

Answer was at question '37 [P15]' ( Which utility is being given to the stratification? (please add information in case of Other) )

Please choose **all** that apply:

- 
- Diagnosis
- Age
- Stratification results
- Previous admission
- Other:

**Is the clinician able to identify in the computer system the patients selected for a given program by stratification?**

Please choose **only one** of the following:



- 
- Yes
- No

**Who is able to identify these patients?**

**Only answer this question if the following conditions are met:**

Answer was 'No' at question '39 [p15\_pob\_ident]' ( \* Is the clinician able to identify in the computer system the patients selected for a given program by stratification? )

Please write your answer here:

**Does the clinician have the possibility to assess and validate the patients selected by stratification?**

Please choose **only one** of the following:

- 
- Yes
- No

**Validation of patients by clinicians is reflected in the patient's medical history.**

**Only answer this question if the following conditions are met:**

Answer was 'Yes' at question '41 [p15\_pob\_validar]' ( Does the clinician have the possibility to assess and validate the patients selected by stratification? )

Please choose **only one** of the following:

- 
- Yes
- No

**All levels of care can see the same information related to patient stratification and participation in a program**

Please choose **only one** of the following:

- 
- Yes
- No

**How do you assess the applicability in a given patient?**

Please select at least one answer

Please choose **all** that apply:



Identification criteria (misdiagnosis, patient death, bugs ...)

Clinical criteria of the end user

Other:

Please select at least one answer.

**Is the population included in a program stable over time?**

Please choose **only one** of the following:

Yes

No

**Are there admissions and discharges on the programs?**

Please choose **only one** of the following:

Yes

No

**Who does this task?**

**Only answer this question if the following conditions are met:**

Answer was 'Yes' at question '46 [p15\_pob\_nuevas]' ( Are there admissions and discharges on the programs? )

Please write your answer here:

**Have you launched a program to improve care for patients at risk as a result of the use of a predictive model?**

Please choose **only one** of the following:

Yes

No



## I.1.8 Implementation

### Advantages of implementing this model:

Please write your answer here:

### Disadvantages, limitations or suggested improvements:

Please write your answer here:

### Which are the barriers to implement the model?

Please choose **all** that apply:

Legal

Economic

Human resources

Time

Organizational / Institutional

Other:

Check any of these:

### Please enclose files related to the model (description, plan monitoring / evaluation, results ...):

Kindly attach the aforementioned documents along with the survey

### Please indicate others who have implemented any other risk stratification model different from what you have described in this survey (so we can contact them to collect and disseminate information from other models and programs).

1.

2.

3.

{}  
[]

Full name




### I.1.9 Additional information about the survey

**Finally, if you wish, please add any additional information appropriate on matters relating to the scope of this survey.**

Please write your answer here:

Before submitting the survey, **if you want to change some of the previous answers**, you can go back by clicking "**Previous**" button at the bottom center.

You can also **save the survey and continue it at another time** by clicking "**Resume later**" button at the bottom left and following the instructions.

If you have finished please click the "**Submit**" button.

#### **Improvement areas of the Survey**

Please, answer the following questions. They will be very useful to assess and improve this survey.

#### **Please rate from 1 to 4:**

Please choose the appropriate response for each item:

Utility: do you consider that the survey is useful for the purpose of ACT?

Usability: do you think it is user friendly?

Readability: do you understand questions and concepts?

Not at all

#### **Other questions you would include:**

Please write your answer here:

#### **Other answers (choices) you would include:**

Please write your answer here:

Thank you for your interest and support!

Sincerely,

Andres Cabrera-Leon

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LimeSurvey Manager

Submit your survey.

Thank you for completing this survey.