ADVANCE

# Il progetto ADVANCE

## Accelerated development of vaccine benefit-risk collaboration in Europe

Rosa Gini

Agenzia regionale di sanità della Toscana

Messina, 15 luglio 2016
Quale ruolo delle banche dati sanitarie sulle politiche del farmaco?
Esperienze Italiane a confronto

imi Innovative Medicines Initiative efpia

# Indice

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# Cos'è ADVANCE

ADVANCE (Accelerated development of vaccine benefit-risk collaboration in Europe) è un progetto di IMI (Innovative Medicines Agency), un consorzio tra l'Unione Europea e la confederazione delle aziende farmaceutiche europee, attivo tra il 2013 e il 2018

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# Obbiettivo

Aiutare professionisti, agenzie regolatorie, istituzioni di sanità pubblica, aziende produttrici e cittadini a compiere **scelte maggiormente informate** su benefici e rischi dei vaccini in commercio

imi Innovative Medicines Initiative efpia

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# Attività

Mappatura delle sorgenti di dato

Sviluppo metodologico

Mappatura della rete istituzionale

Studi Proof-of-Concept

Best practice nell'interazione pubblico-privato

imi Innovative Medicines Initiative

efpia

# Attività

Mappatura delle sorgenti di dato

Sviluppo metodologico

Mappatura della rete istituzionale

Studi Proof-of-Concept

Best
nell'int
pubblic

- codice di condotta
- regole di governance

# Attività

Mappatura delle sorgenti di dato

Svil
metod

Come affrontare l'eterogeneità e l'imperfetta validità dei dati disponibili?

Mappatura della rete istituzionale

Studi Proof-of-Concept

Best practice nell'interazione pubblico-privato

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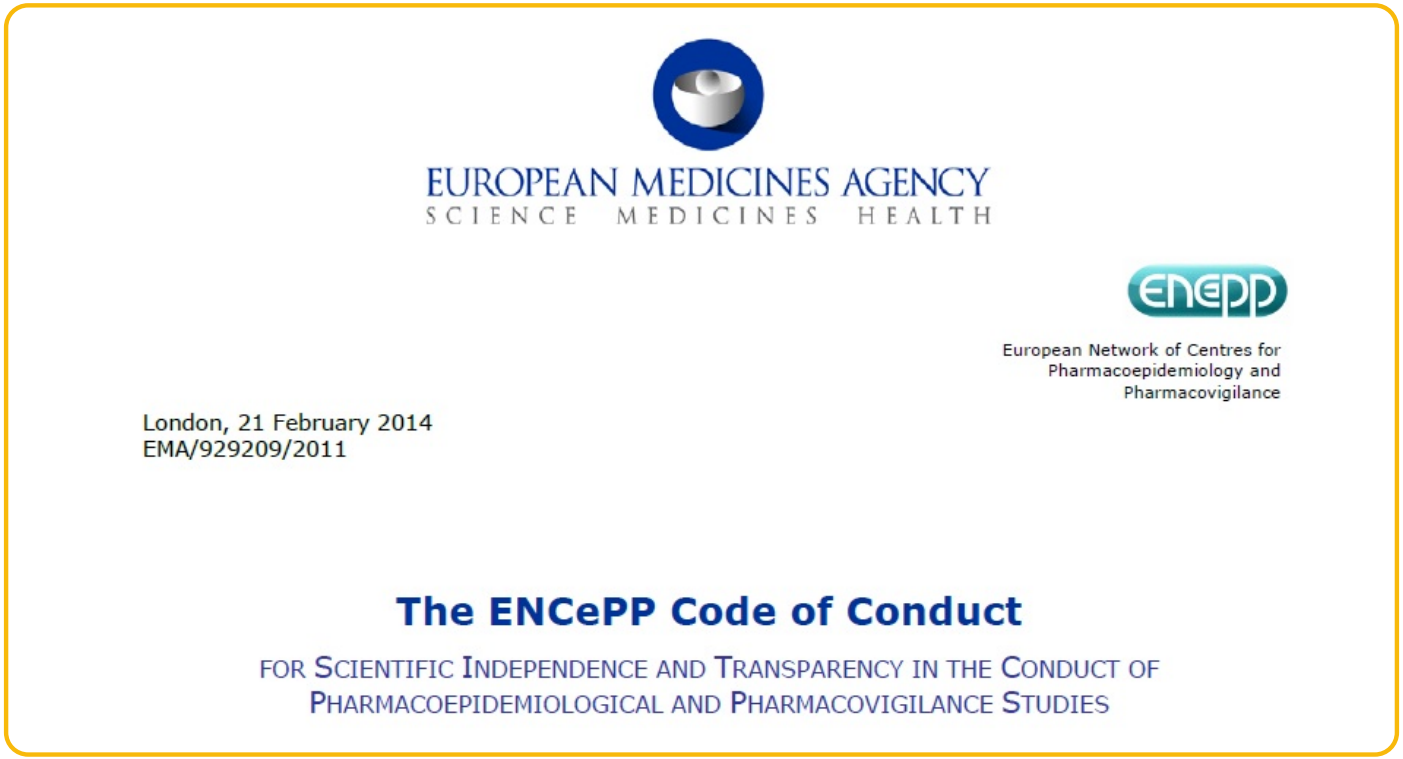
# Indice

# Background



EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

European Network of Centres for Pharmacoepidemiology and Pharmacovigilance

London, 21 February 2014
EMA/929209/2011

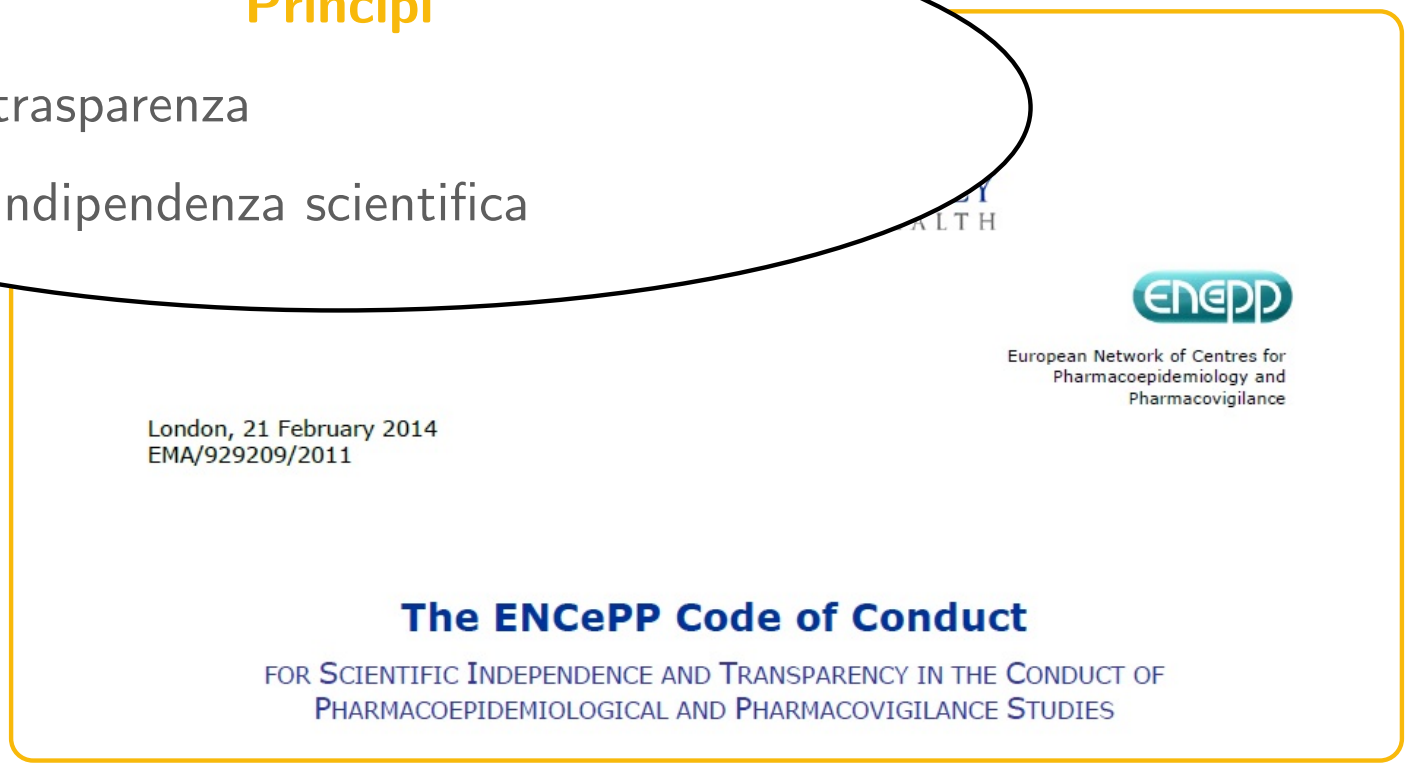
## The ENCePP Code of Conduct

FOR SCIENTIFIC INDEPENDENCE AND TRANSPARENCY IN THE CONDUCT OF PHARMACOEPIDEMIOLOGICAL AND PHARMACOVIGILANCE STUDIES

# Background

## Principi

- trasparenza
- indipendenza scientifica



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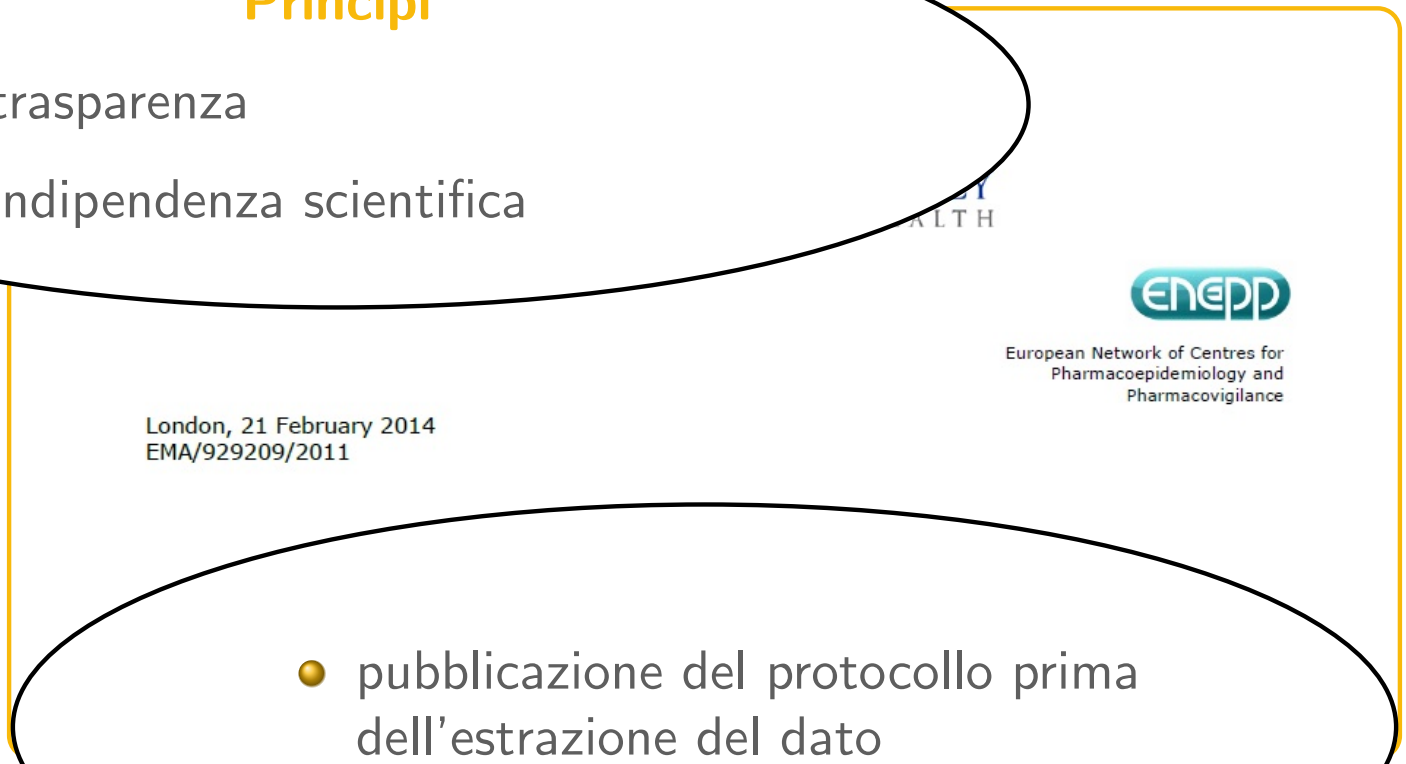

European Network of Centres for Pharmacoepidemiology and Pharmacovigilance

London, 21 February 2014
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- pubblicazione del protocollo prima dell'estrazione del dato
- obbligo di pubblicare il report

# Background

## Principi

- trasparenza
- indipendenza scienti

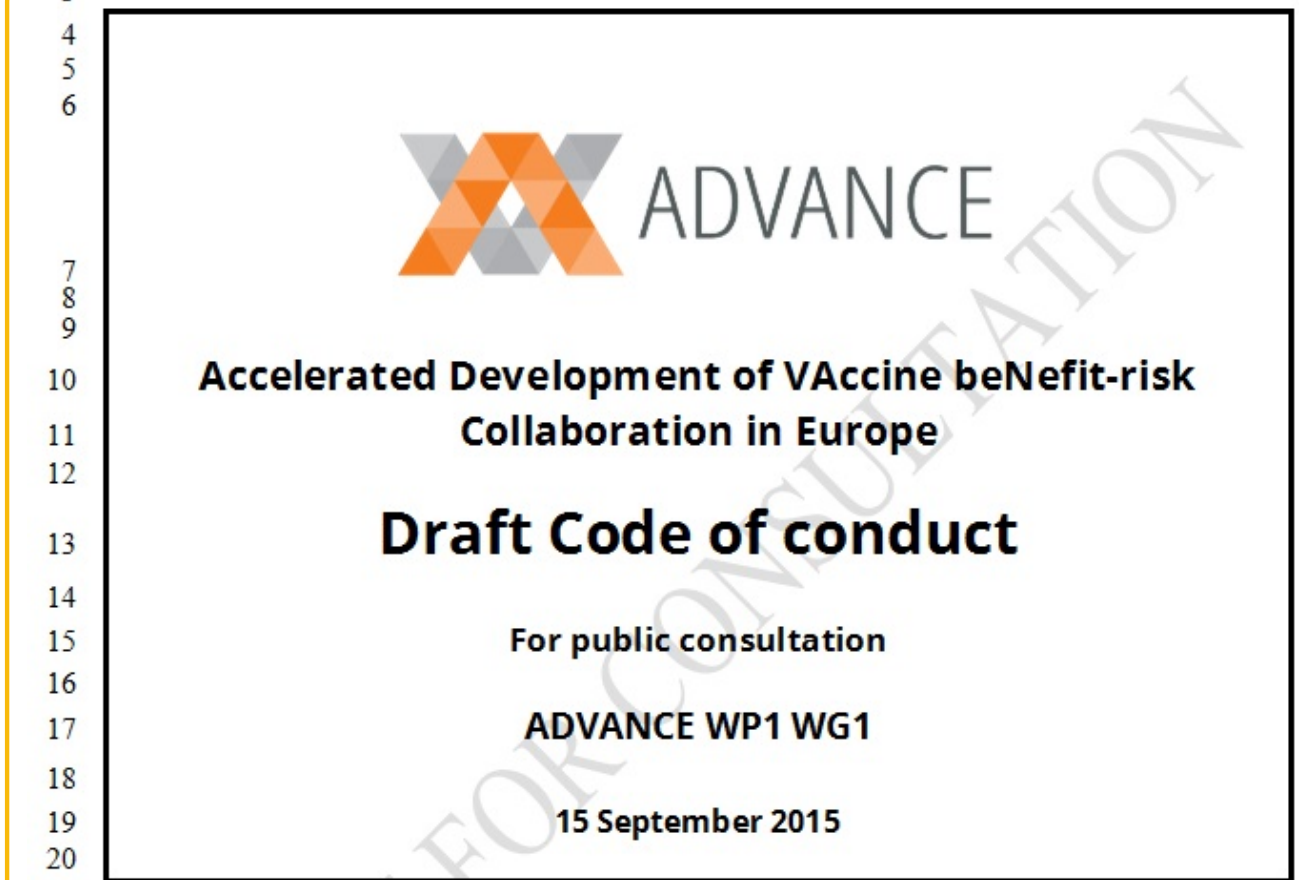
Il finanziatore privato può commentare pubblicamente il protocollo e il report, ma non può essere parte integrante del gruppo di ricerca

European Network of Centres for Pharmacoepidemiology and Pharmacovigilance

London, 21 February 2014
EMA/929209/2011

- pubblicazione del protocollo prima dell'estrazione del dato
- obbligo di pubblicare il report

# Bozza di ADVANCE



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**Accelerated Development of VAccine beNefit-risk Collaboration in Europe**

## Draft Code of conduct

**For public consultation**

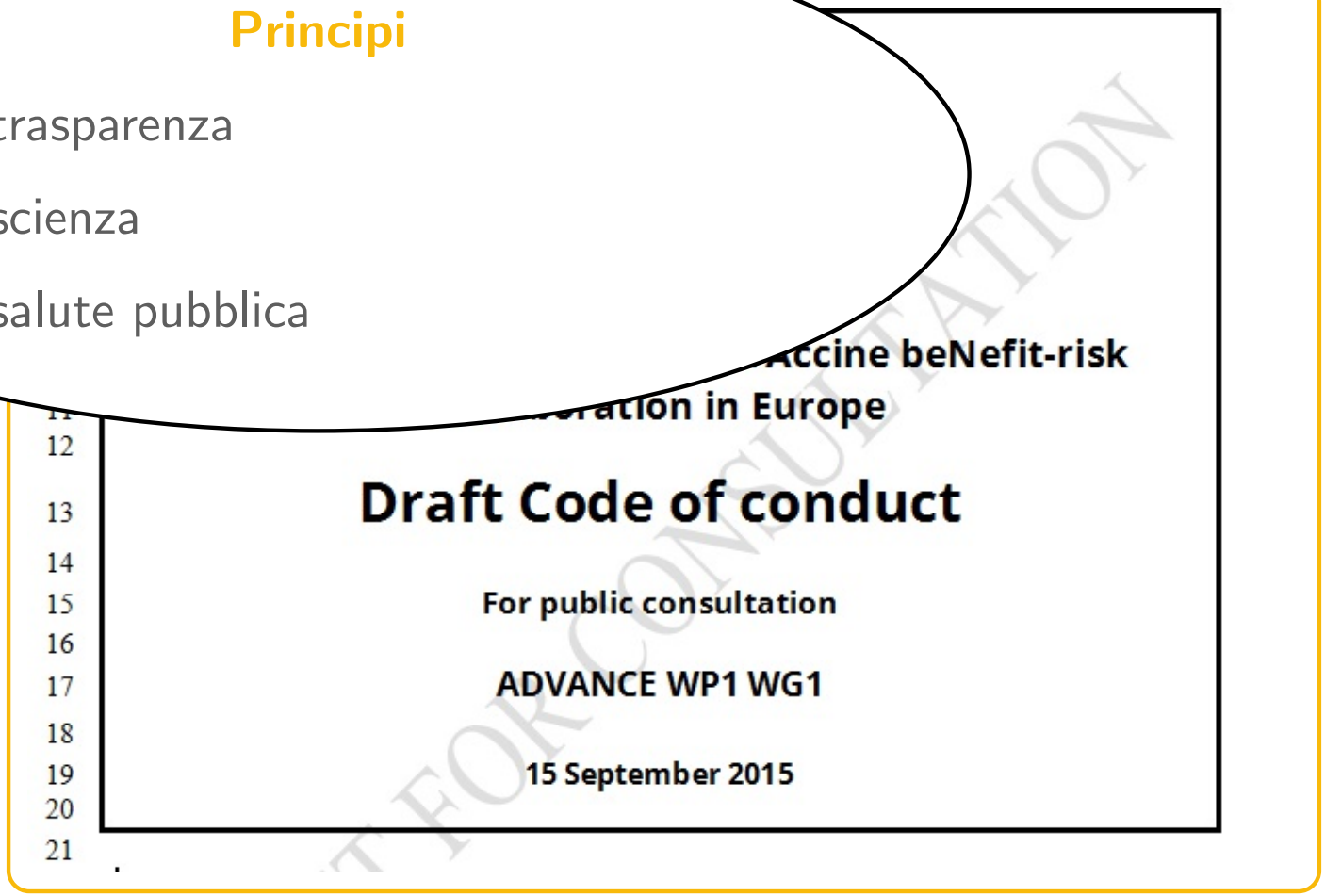
**ADVANCE WP1 WG1**

**15 September 2015**

# Bozza di ADVANCE

## Principi

- trasparenza
- scienza
- salute pubblica



...Accine beNefit-risk
...oration in Europe

**Draft Code of conduct**

**For public consultation**

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# Bozza di ADVANCE

## Principi

- trasparenza
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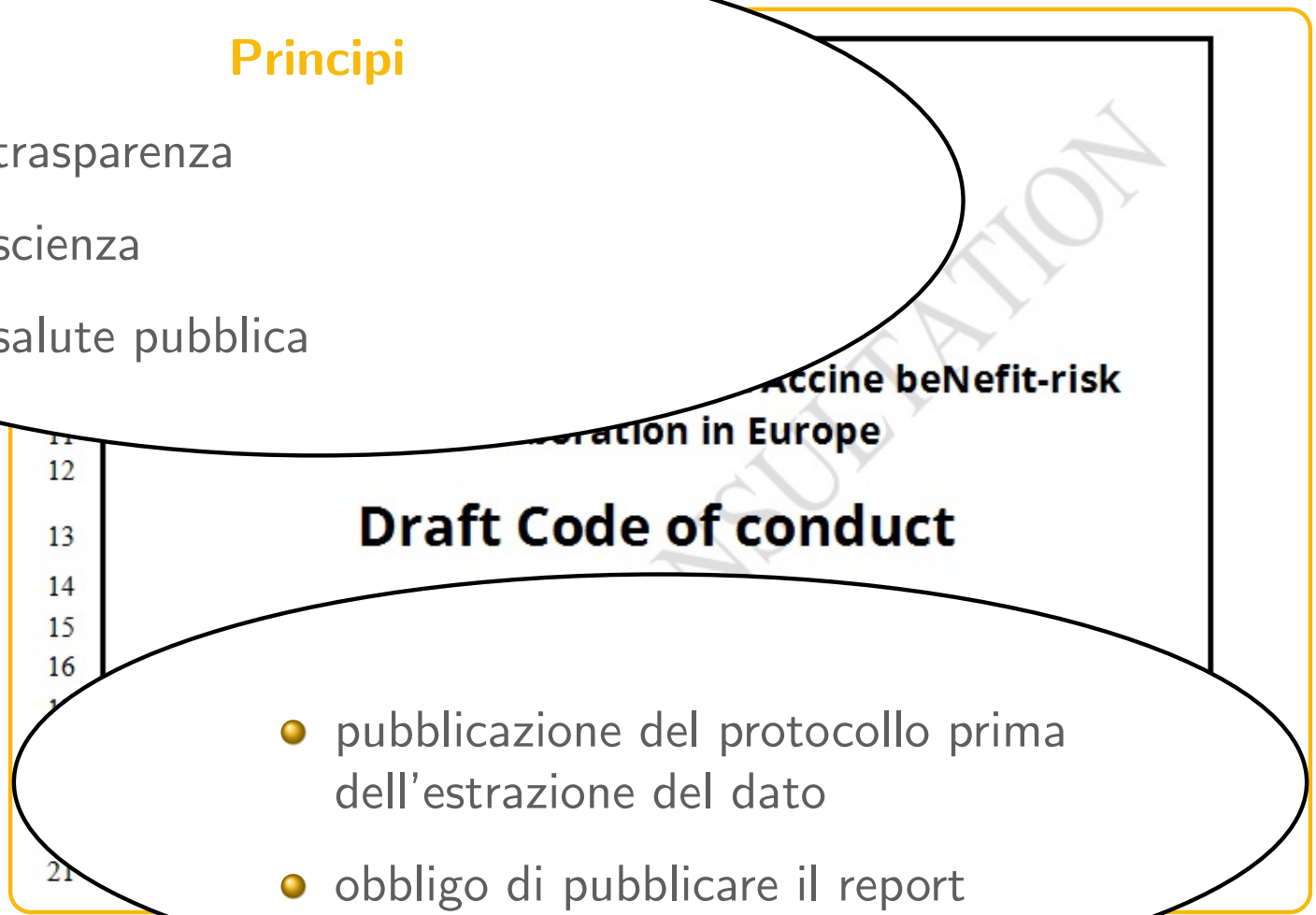


- pubblicazione del protocollo prima dell'estrazione del dato
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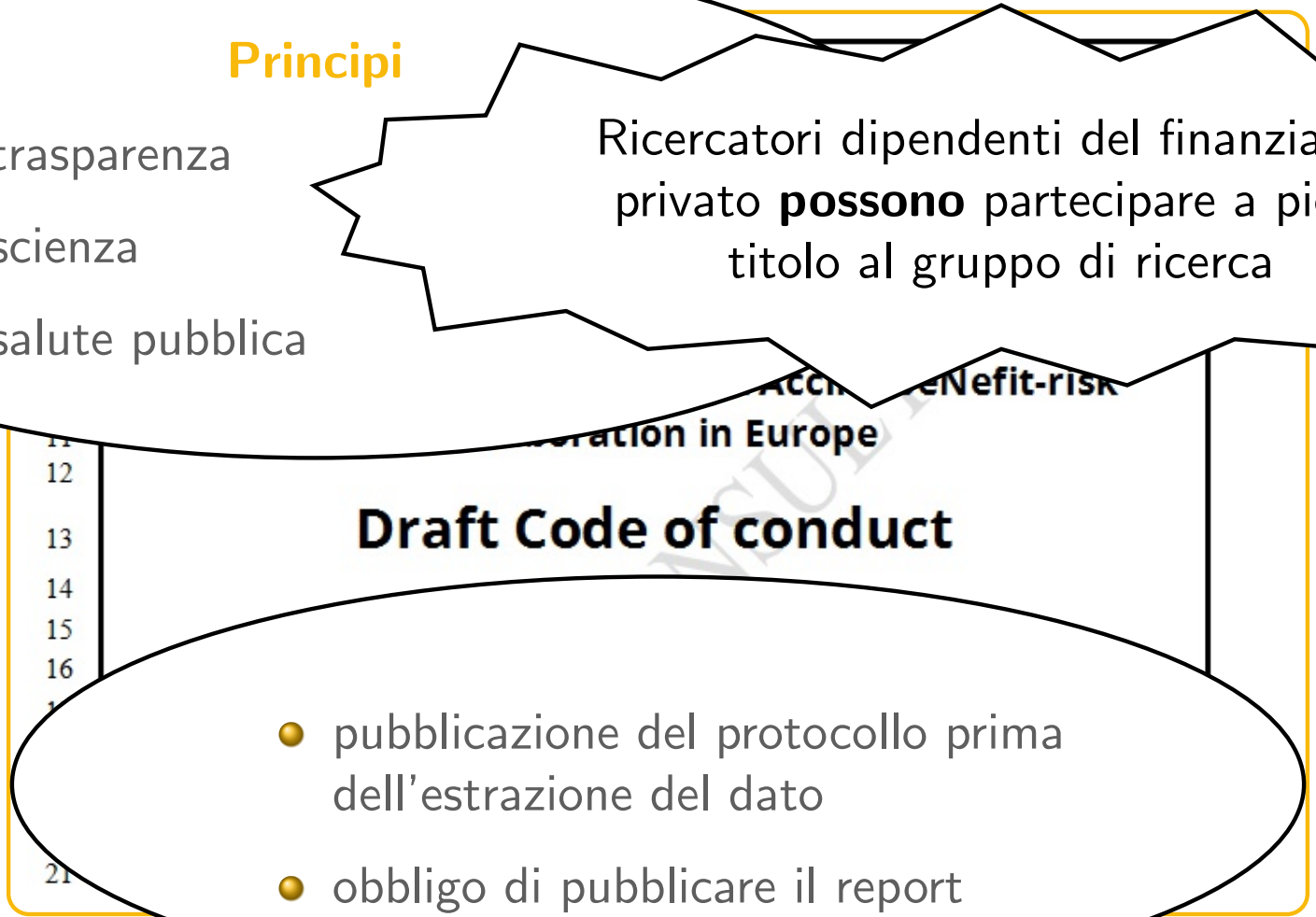
# Bozza di ADVANCE

## Principi

- trasparenza
- scienza
- salute pubblica

Ricercatori dipendenti del finanziatore privato **possono** partecipare a pieno titolo al gruppo di ricerca




- pubblicazione del protocollo prima dell'estrazione del dato
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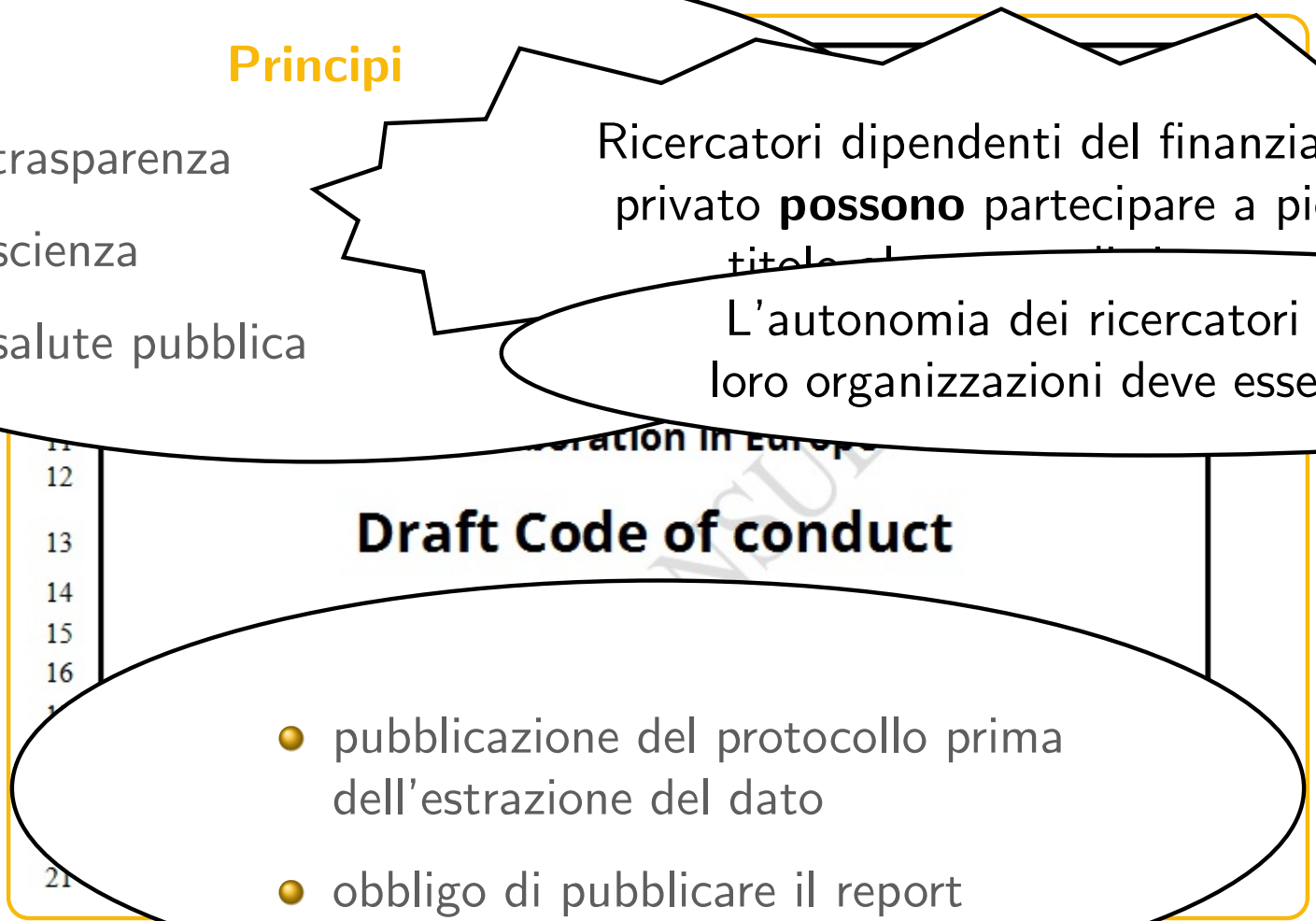
# Bozza di ADVANCE

## Principi

- trasparenza
- scienza
- salute pubblica

Ricercatori dipendenti del finanziatore privato **possono** partecipare a pieno

L'autonomia dei ricercatori rispetto alle loro organizzazioni deve essere **garantita**

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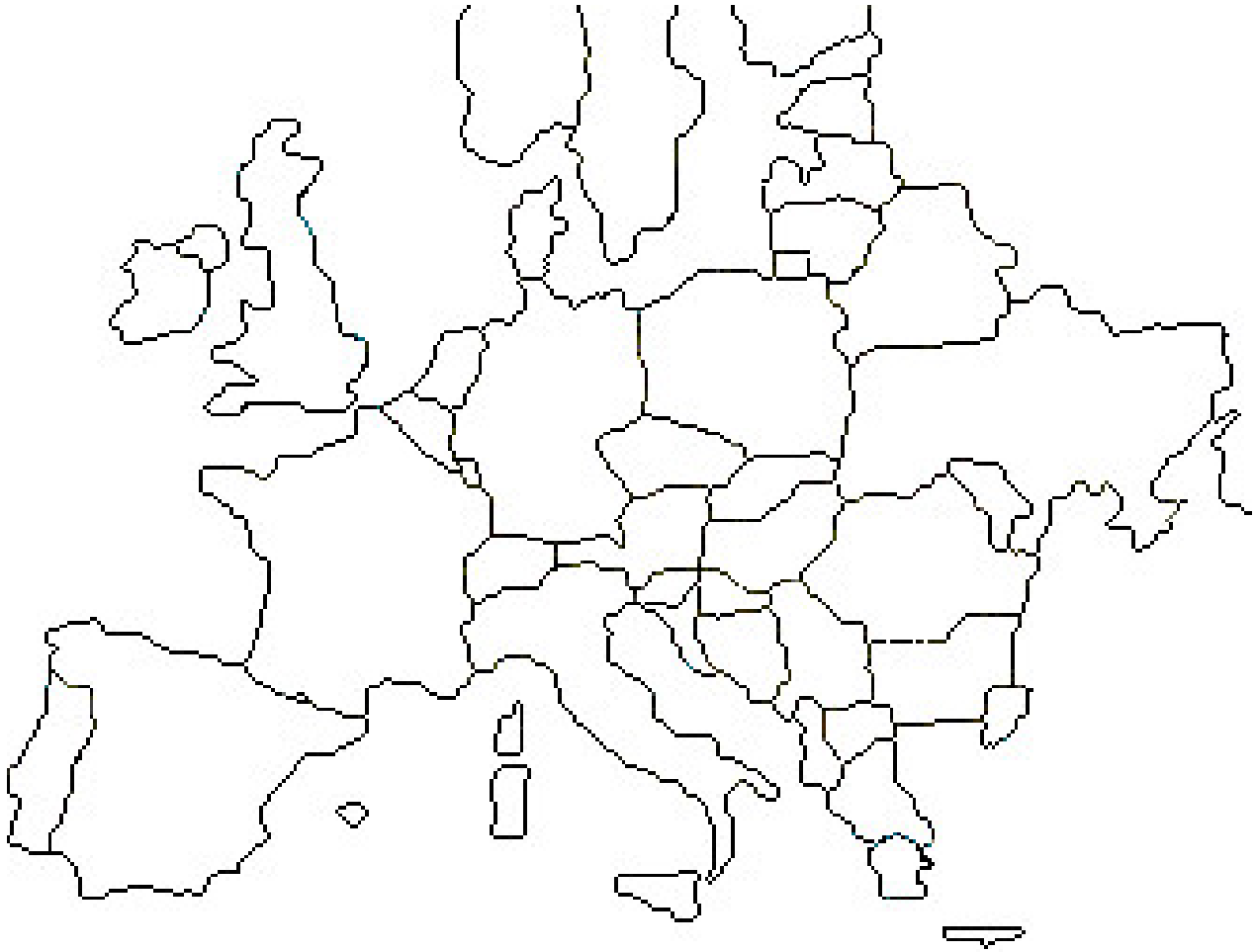
# Indice

# Eterogeneità in Europa



# Eterogeneità in Europa

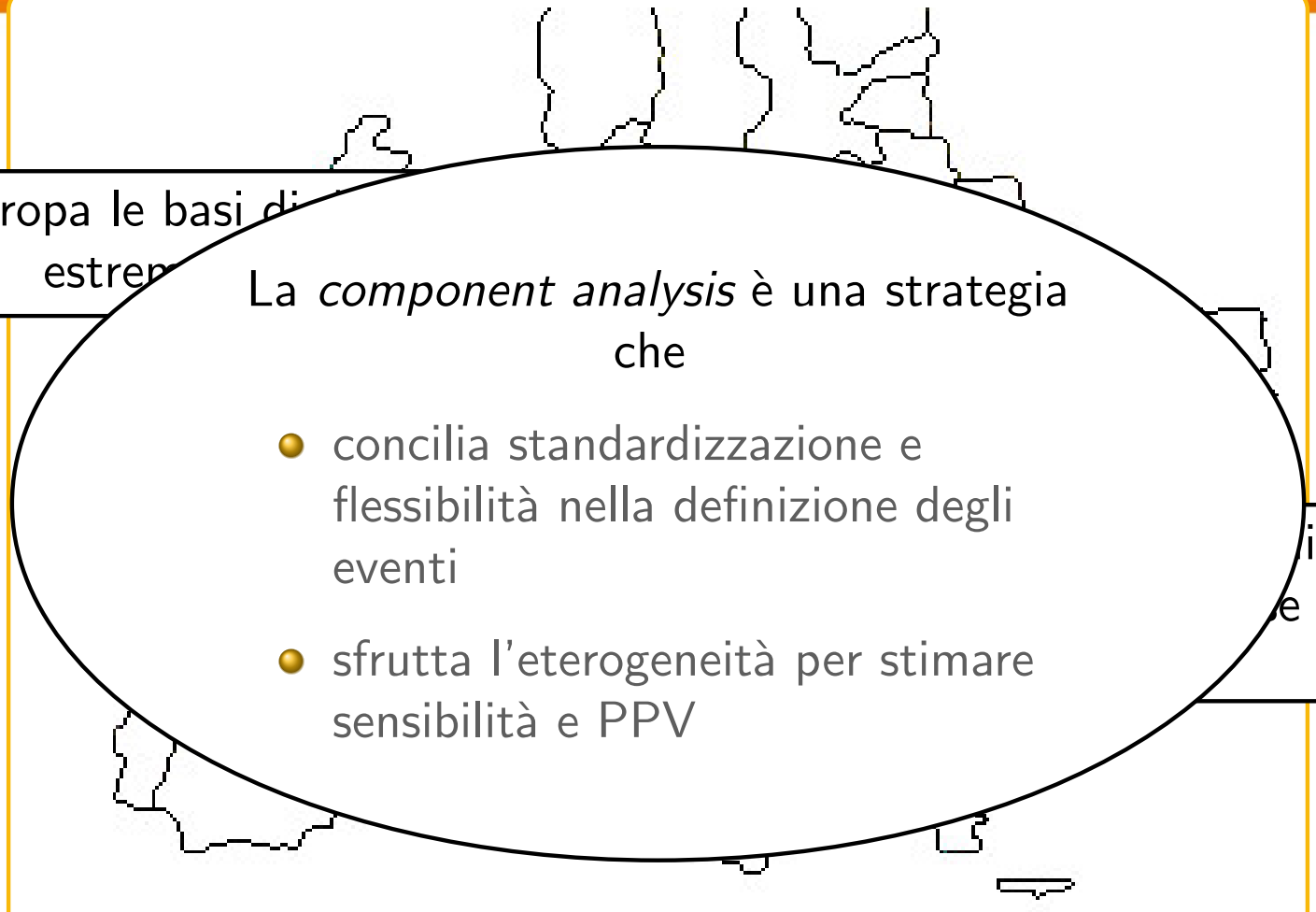
In Europa le basi di dati disponibili sono estremamente eterogenee

# Eterogeneità in Europa

In Europa le basi di dati disponibili sono estremamente eterogenee

La definizione delle variabili di studio varia fortemente da una base di dati all'altra

# Eterogeneità in Europa



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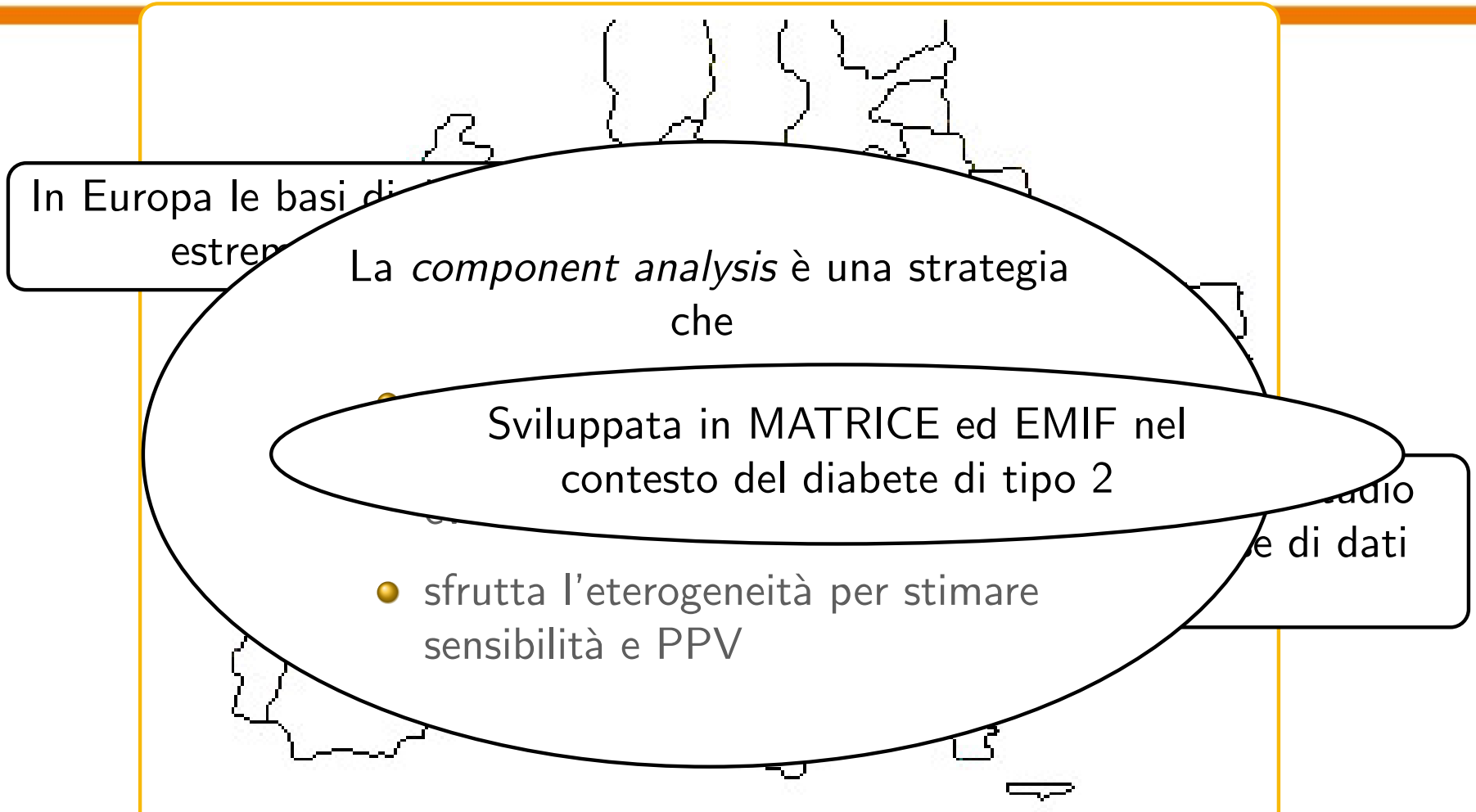
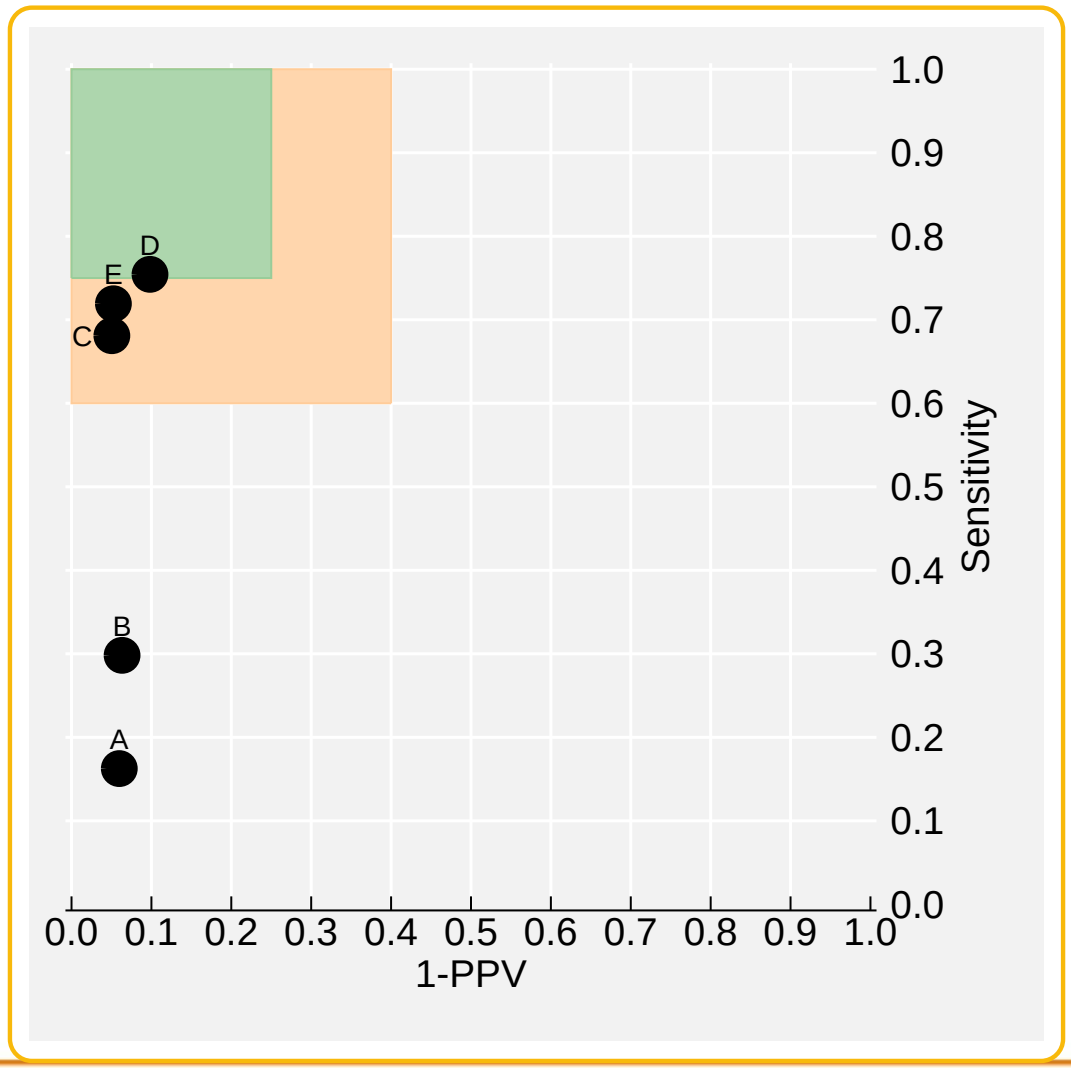


# Componenti del diabete T2 su banche dati italiane



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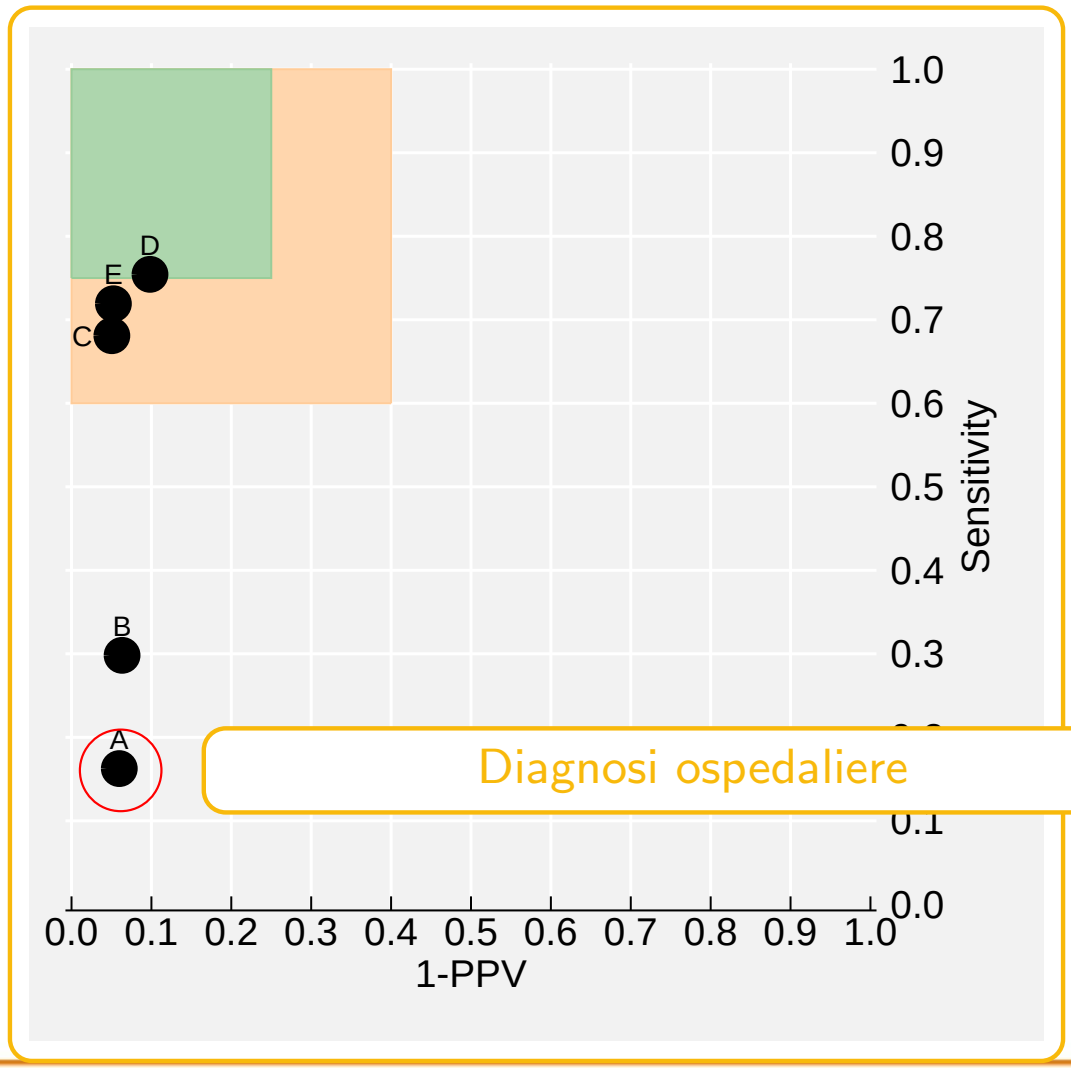

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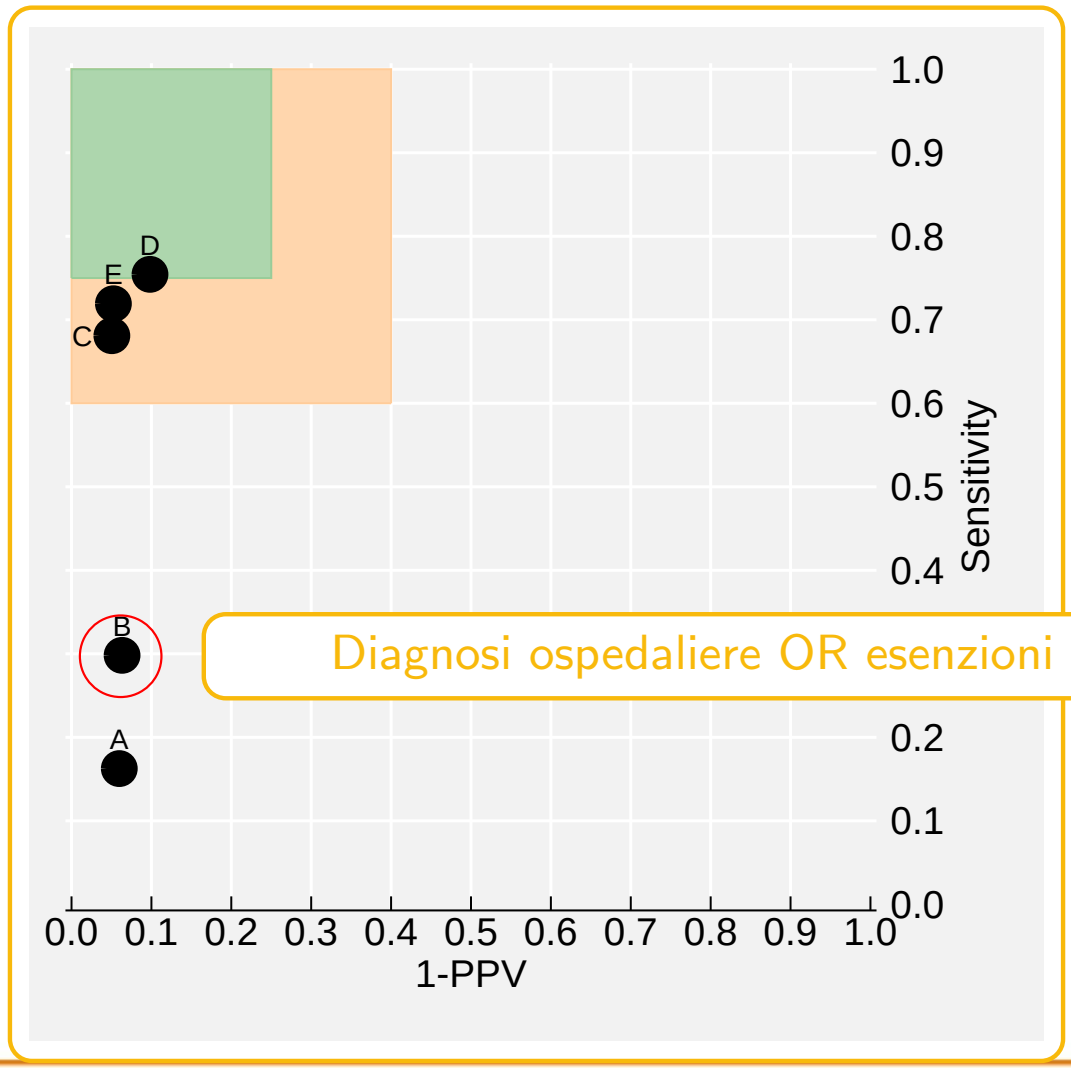

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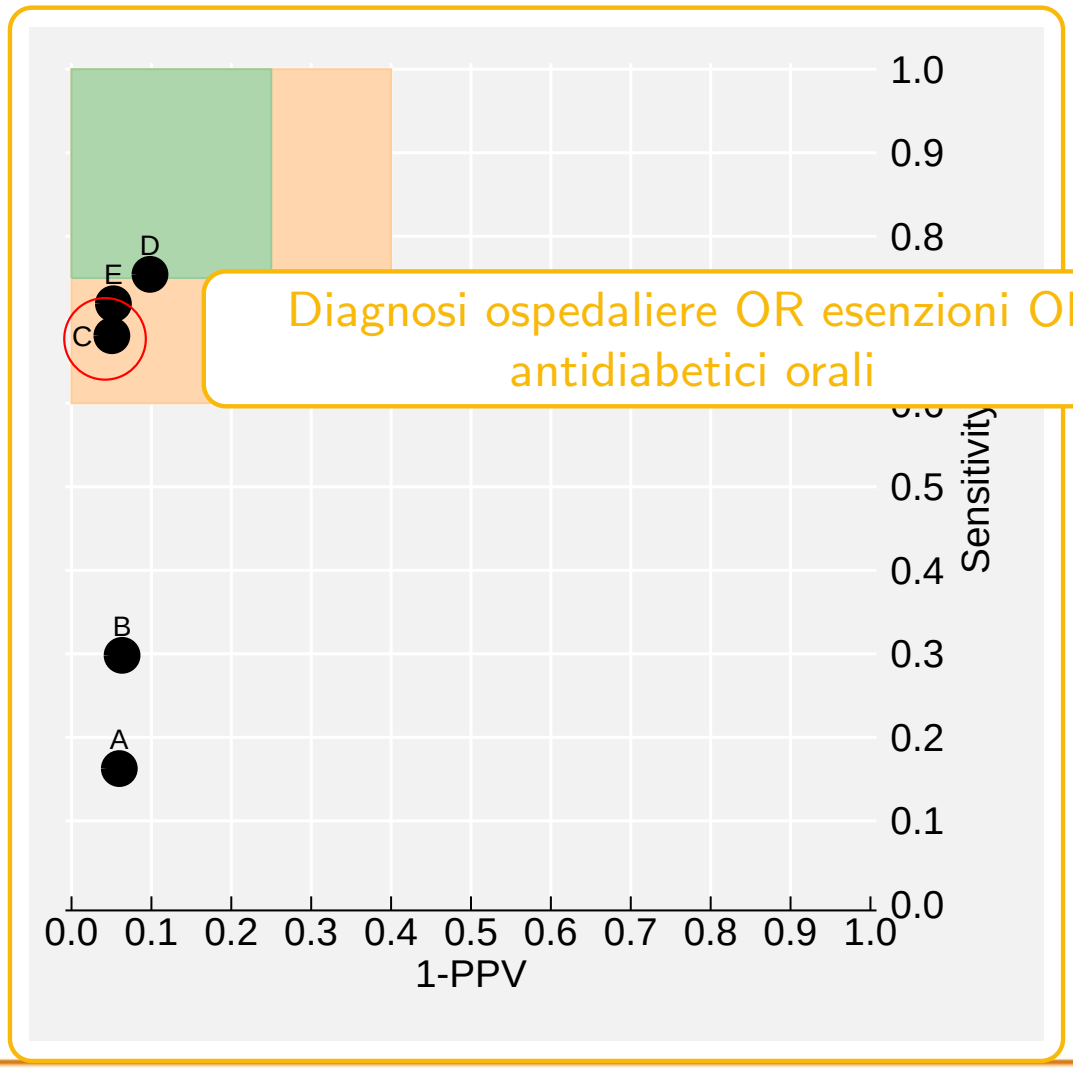

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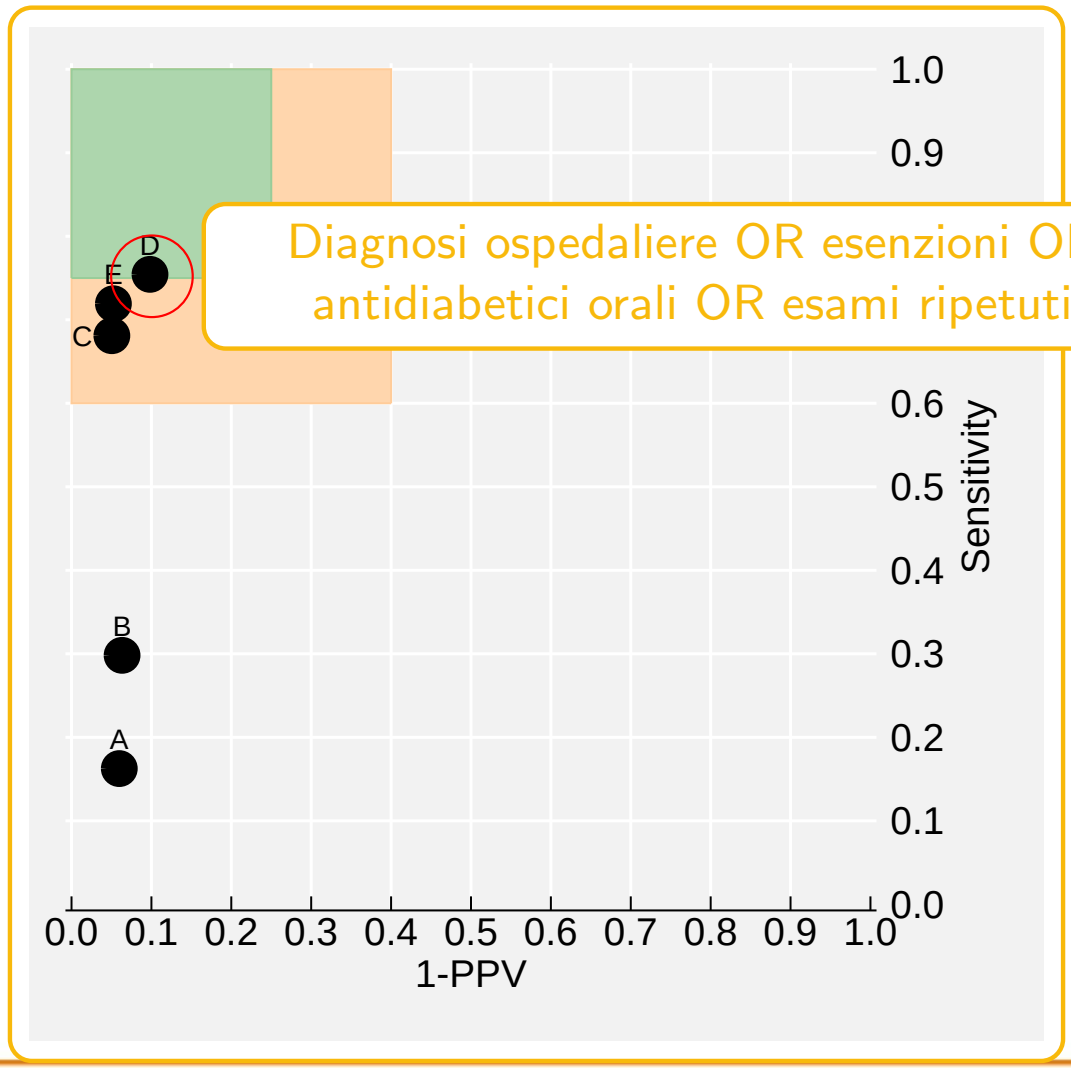

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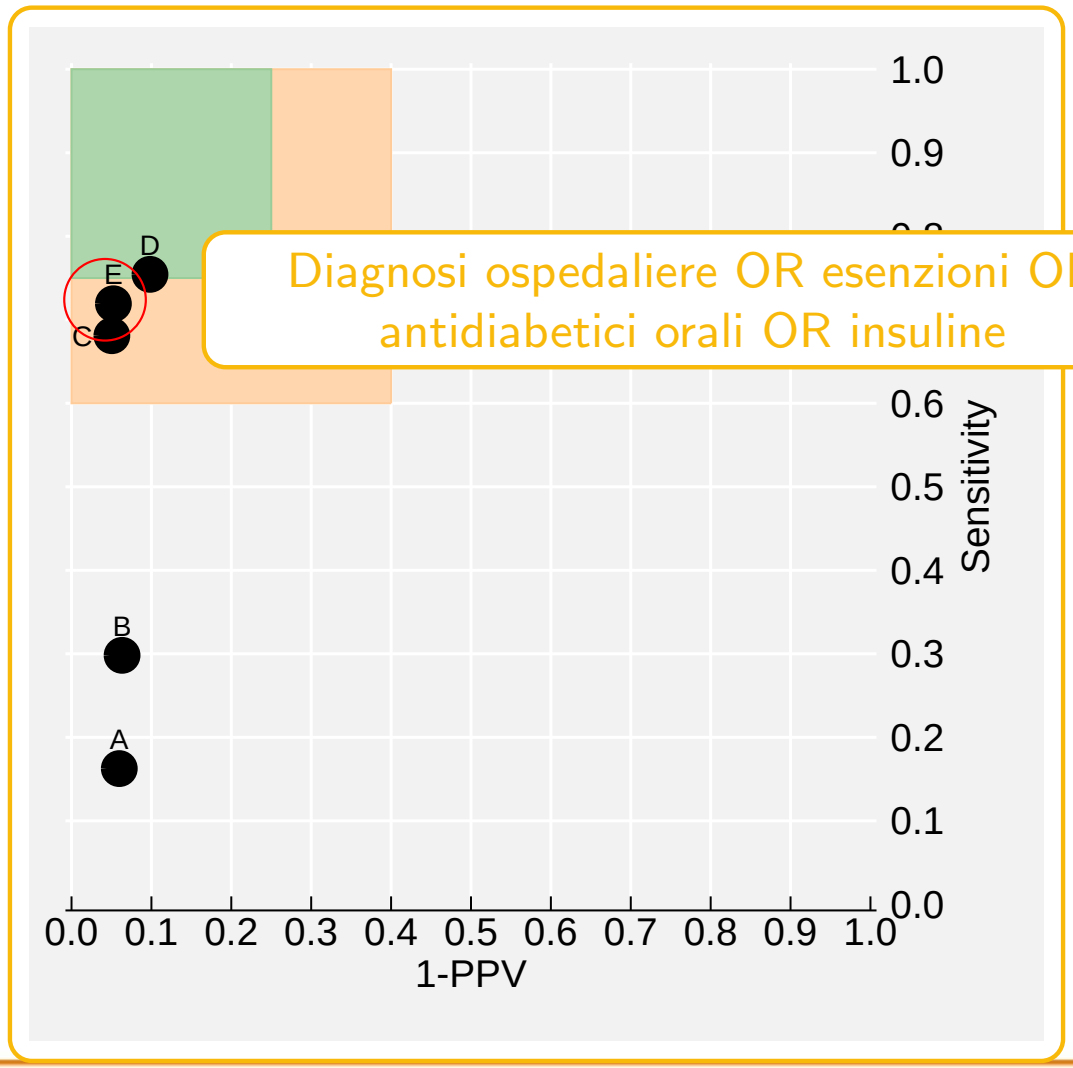

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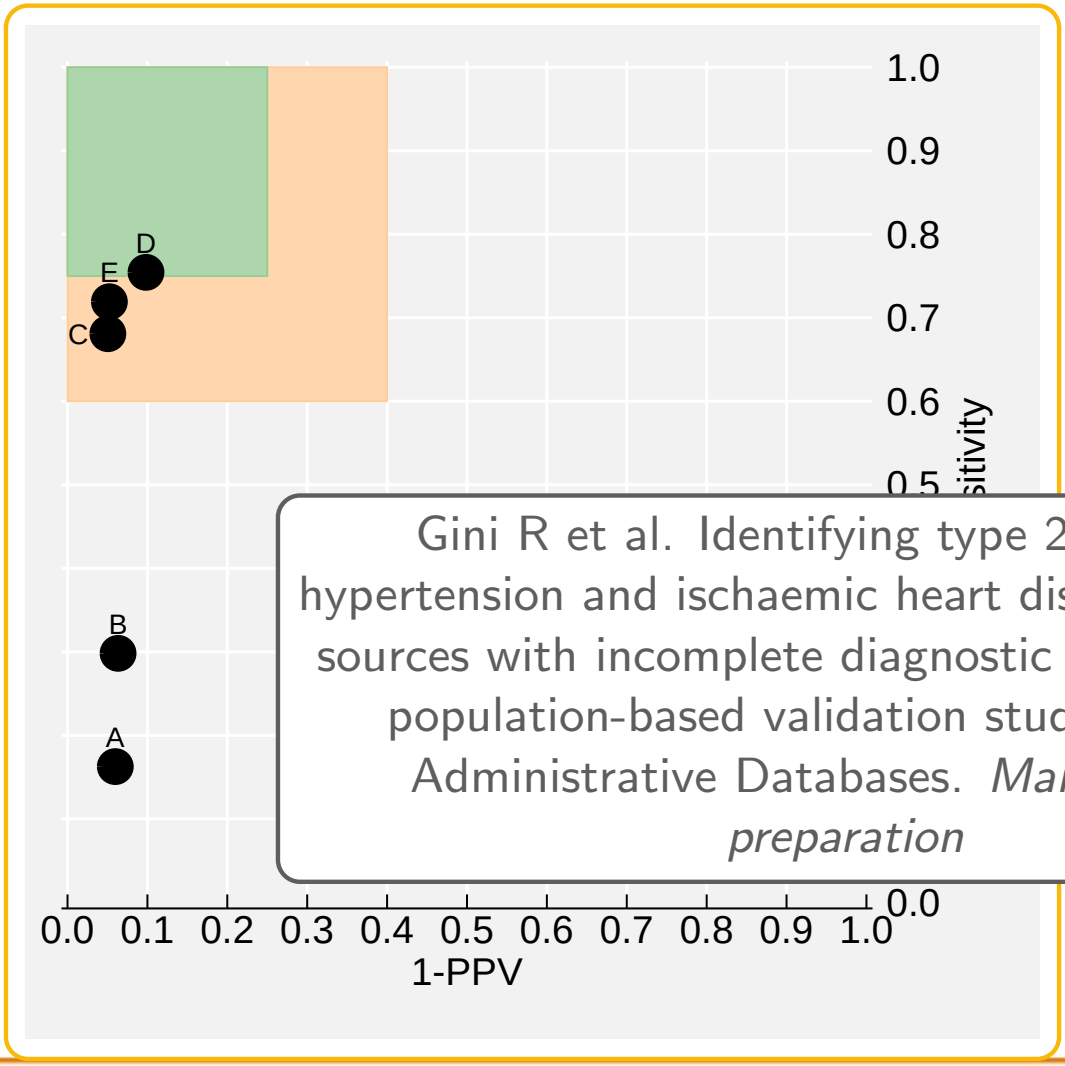


Gini R et al. Identifying type 2 diabetes, hypertension and ischaemic heart disease from data sources with incomplete diagnostic information: a population-based validation study in Italian Administrative Databases. *Manuscript in preparation*

# Componenti del diabete T2 su banche dati europee

| Data Source | Recommended composite algorithm | Comment of the local expert | Sensitivity | PPV |
|---|---|---|---|---|
| PCD-I | (T2DM_DMUNSPEC **OR** T2DM_LABVAL_TWO **OR** T2DM_FAST_GLUC_TWO **OR** T2DM_LCURVE_GLUC_TWO) **AND NOT** (T2DM_DM1)) | The chosen composite algorithm was validated in HSD in a study that is undergoing publication and found very high PPV (around 100% in the validation sample). Due to the nature of the data source and the very broad algorithm, sensitivity must be very high as well. | ≥ .9 | ≥ .9 |
| PCD-N | T2DM_DIAG_PC **OR** T2DM_ORAL_ONE | T2DM is identified via the diagnosis code (DIAG_PC) or the utilization of specific drugs for T2DM (non-insulin antidiabetic drugs - ORAL). It has been observed that there is no substantial difference between selection of patients with one (ORAL_ONE) or at least two drug prescriptions (ORAL). Some subjects with T2DM diagnosis also have a record for DM1. Some GPs record DM1 to indicate insulin dependence (regardless of diabetes type) due to the former DM1 name 'insulin-dependent diabetes' | ≥ .9 | ≥ .9 |
| PCD-UK | T2DM_DIAG_PC | adding any other strategy (LABVAL, ORAL, INSULIN...) does not add almost anybody | ≥ .9 | ≥ .9 |
| RLD-DK | (T2DM_DIAG_INP **OR** T2DM_DIAG_SC) **OR** ((T2DM_TEST_GLUCO5_1YR **OR** T2DM_ORAL **OR** T2DM_INSULIN **OR** T2DM_GLUCO2_PYEAR_5YRS)**AND NOT** (T2DM_DM1 **OR** T2DM_EXCL)) | The chosen strategy to identify T2DM cases is similar to the strategy which is regularly used in AUH to identify cases of unspecified diabetes. This is the strategy of the Danish National Diabetes registry, which has been repeatedly validated. A recent study published in 2015 estimated that sensitivity and PPV are 95 and 80%, respectively. When adapting this algorithm to the case of T2DM we decided to change some elements of the validated strategy. The main differences are: we used type 1 diabetes diagnoses as exclusion criteria, we used diagnoses of T2DM rather than diagnoses of unspecified diabetes, we avoided chiropody for diabetics as inclusion criteria and we did not exclude cases of gestational diabetes. As for insulin and other antidiabetic drugs, we used two prescription in one year as inclusion criteria rather than two prescription recorded at any time. The expected sensitivity and PPV of the chosen algorithm are possibly slightly lower but still very close to those of the validated algorithm. | ≥ .9 | > 7 and < .9 |
| RLD-I | T2DM_DIAG_INP **OR** T2DM_ORAL **OR** T2DM_INSULIN **OR** T2DM_DIAG_OTH | From a validation study, the sensitivity of this algorithm is 76% and PPV 86%, excluding subjects with a record of T1 diabetes does not improve the extraction validity. T2DM_DIAG_OTH refers to an Italian table: disease-specific exemptions from copayment to healthcare | > 7 and < .9 | > 7 and < .9 |
| RLD-N | T2DM_ORAL | The chosen strategy to identify type 2 diabetes patients (T2DM_ORAL) has a very high PPV (95%). The reason we have decided to use only this method and not include other components we extracted is that the identification of T2DM patients based on the use of oral antidiabetics is extensively tested and validated within GPs. We are aware that this approach is limited to identify treated patients only, but this is deliberate. Although a patient could be classified as a T2DM patient given the strict clinical definition that was chosen in this process (i.e. HbA1c above a certain threshold), the fact that the patient is not treated begs the question whether it should be classified as a prevalent patient. The sensitivity of this strategy with respect to the wider class of patients matching the clinical definition is between 70 and 90%. | > 7 and < .9 | ≥ .9 |
| BD | T2DM_DIAG_PC | Using any other extracted component algorithm as additional inclusion criteria (i.e. LABVAL, INSULIN_ONE) do not add any patients if those with a concomitant diagnosis of type 1 diabetes are excluded. | ≥ .9 | ≥ .9 |
| HD | T2DM_DIAG_INP **AND NOT** T2DM_DM1 | The chosen algorithm uses as inclusion criterion inpatients diagnoses of T2DM and exclude patients with diagnosis of type 1 diabetes. Other components such as T2DM_EXCL and T2DM_DIASPREG were not considered because did not significantly affect the population of cases identified (total patients excluded=46 of 2,480 - that is 1,9%). | ≥ .9 | ≥ .9 |

# Componenti del diabete T2 su banche dati europee

| Data Source | Recommended composite algorithm | Comment of the local expert | Sensitivity | PPV |
|---|---|---|---|---|
| PCD-I | (T2DM_DMUNSPEC **OR** T2DM_LABVAL_TWO **OR** T2DM_FAST_GLUC_TWO **OR** T2DM_LCURVE_GLUC_TWO) **AND NOT** (T2DM_DM1)) | The chosen composite algorithm was validated in HSD in a study that is undergoing publication and found very high PPV (around 100% in the validation sample). Due to the nature of the data source and the very broad algorithm, sensitivity must be very high as well. | ≥ .9 | ≥ .9 |
| PCD-N | T2DM_DIAG_PC **OR** T2DM_ORAL_ONE | T2DM is identified via the diagnosis code (DIAG_PC) or the utilization of specific drugs for T2DM (non-insulin antidiabetic drugs - ORAL). It has been observed that there is no substantial difference between selection of patients with one (ORAL_ONE) or at least two drug prescriptions (ORAL). Some subjects with T2DM diagnosis also have a record for DM1. Some GPs record DM1 to indicate insulin dependence (regardless of diabetes type) due to the former DM1 name 'insulin-dependent diabetes' | ≥ .9 | ≥ .9 |
| PCD-UK | T2DM_DIAG_PC | adding any other strategy (LABVAL, ORAL, INSULIN...) does not add almost anybody | ≥ .9 | ≥ .9 |
| RLD-DK | (T2DM_DIAG_INP **OR** T2DM_DIAG_SC) **OR** ((T2DM_TEST_GLUCO5_1YR **OR** T2DM_ORAL **OR** T2DM_INSULIN **OR** T2DM_GLUCO2_PYEAR_5YRS)**AND NOT** (T2DM_DM1 **OR** T2DI | The chosen strategy to identify T2DM cases is similar to the strategy which is regularly used in AUH to identify cases of unspecified diabetes. This is the strategy of the Danish National Diabetes registry, which has been repeatedly validated. A recent study published in 2015 estimated that sensitivity and PPV are 95 and 80%, respectively. When adapting this algorithm to the case of T2DM we decided to change some elements of the validated strategy. The main differences are: we used type 1 diabetes diagnoses as exclusion criteria, we used diagnoses of T2DM rather than diagnoses of unspecified diabetes, we avoided chlorpropamide for diabetics as inclusion criteria and we did not exclude cases of gestational diabetes. As for insulin and other antidiabetic drugs, we used two prescription in one year as inclusion criteria rather than two prescription recorded at any | ≥ .9 | > 7 and < .9 |
| RLD-I | T2DM_DIAG_IN **OR** T2DM T2DM_ | | | |
| RLD-N | T2D | the wider class of patients matching the clinical definition is between 70 and 90%. | | |
| BD | T2DM_DIAG_PC | Using any other extracted component algorithm as additional inclusion criteria (i.e. LABVAL, INSULIN_ONE) do not add any patients if those with a concomitant diagnosis of type 1 diabetes are excluded. | ≥ .9 | ≥ .9 |
| HD | T2DM_DIAG_INP **AND NOT** T2DM_DM1 | The chosen algorithm uses as inclusion criterion inpatients diagnoses of T2DM and exclude patients with diagnosis of type 1 diabetes. Other components such as T2DM_ISCCL and T2DM_DIASPREG were not considered because did not significantly affect the population of cases identified (total patients excluded=46 of 2,460 - that is 1,9%). | ≥ .9 | ≥ .9 |

Roberto G et al. Identifying cases of type 2 diabetes from heterogeneous data sources: strategy from the EMIF project. Accepted for publication in *Plos ONE*

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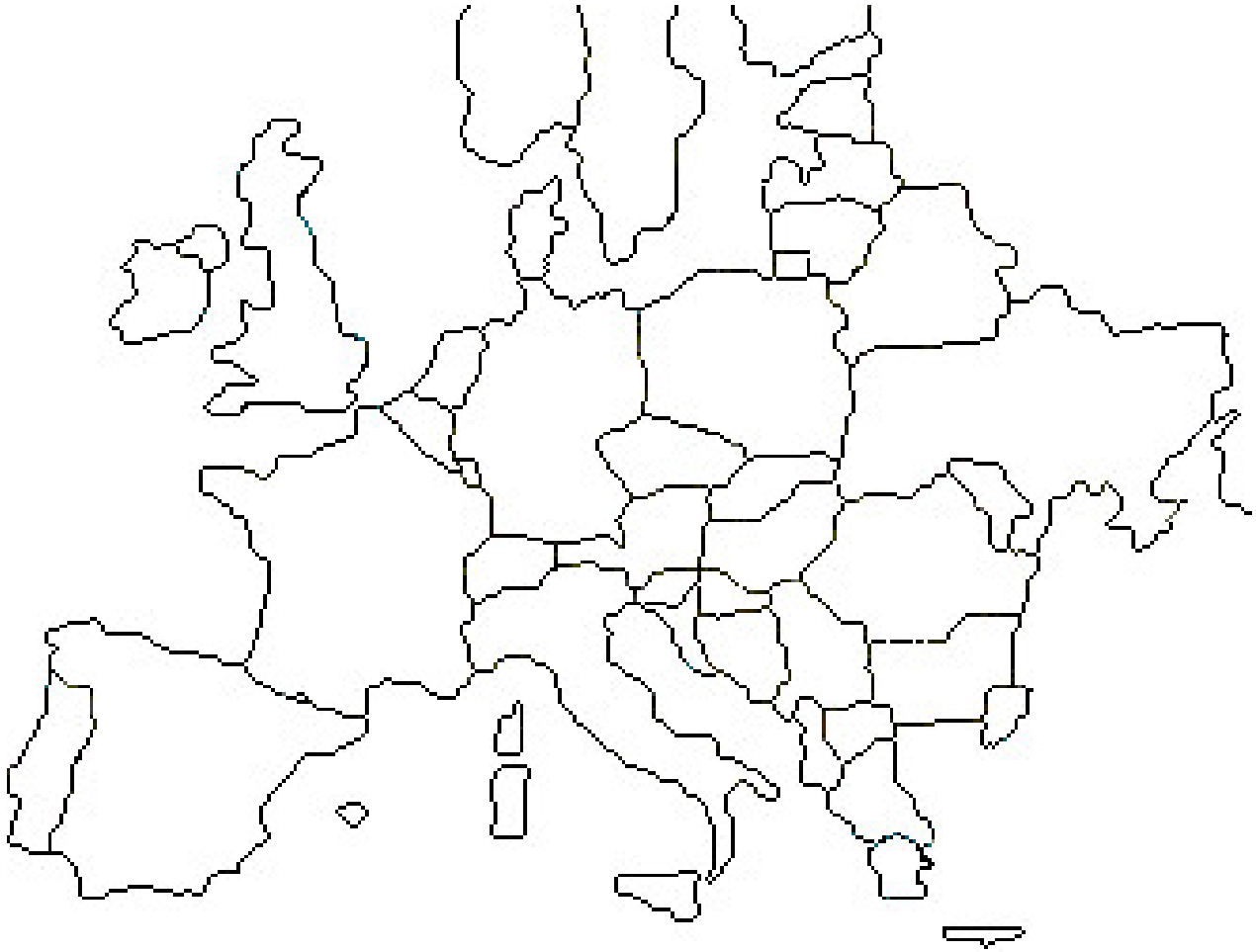

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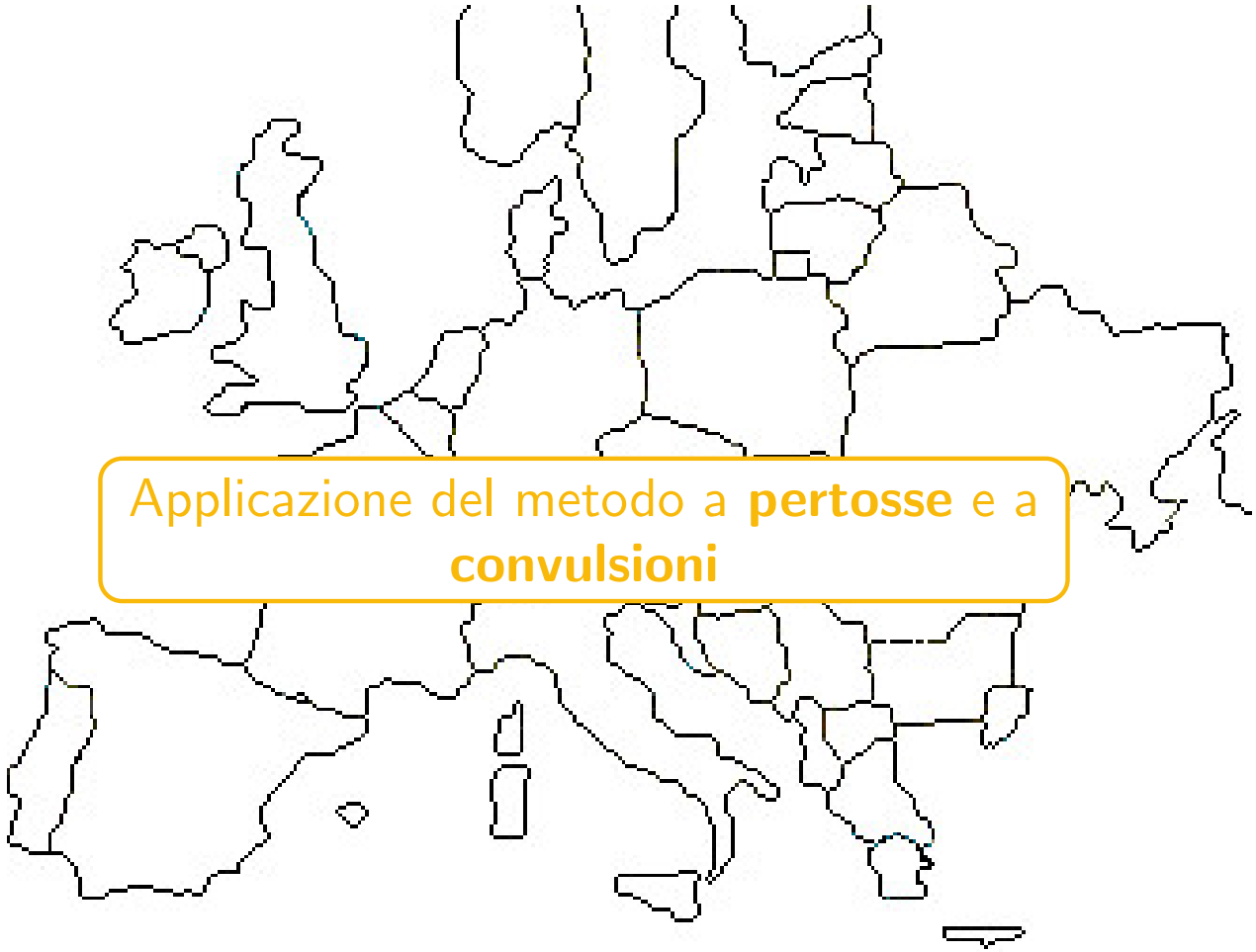

Applicazione del metodo a **pertosse** e a **convulsioni**

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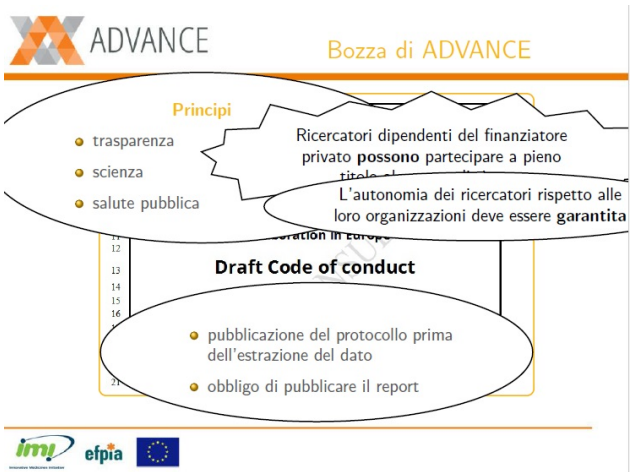
# Punti chiave



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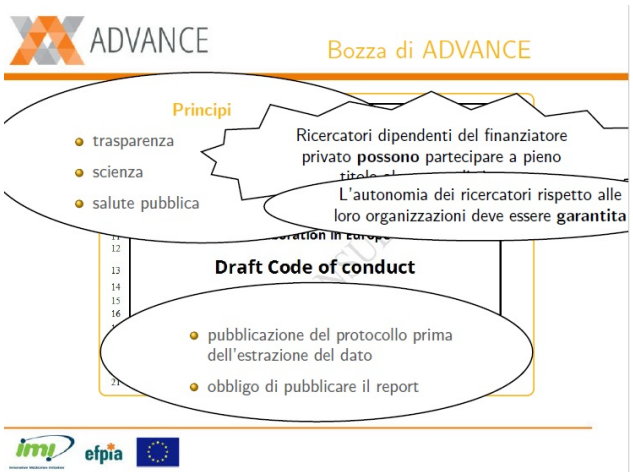


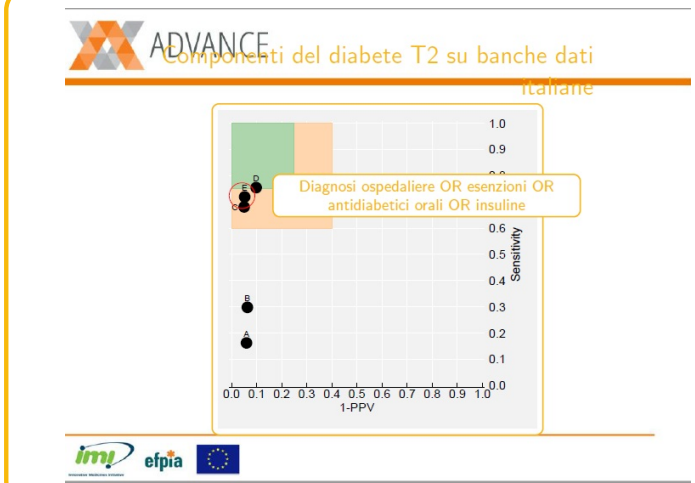

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