



**European estimates of the mammography screening  
balance sheet of benefits and harms: challenges for  
communication and research**

# Overdiagnosis and overtreatment: Definitions and problems for health services

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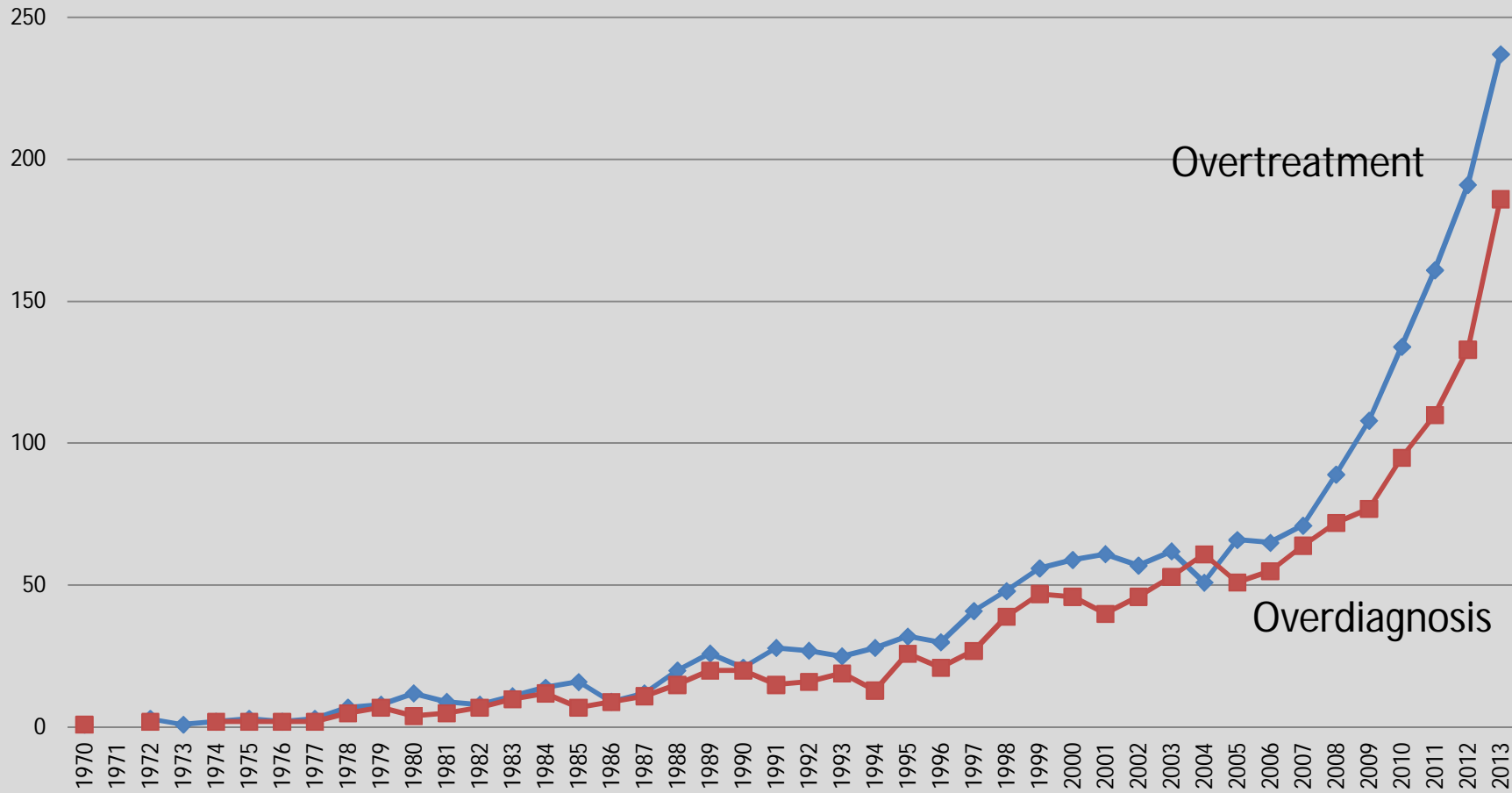
# Scientific research on overtreatment and/or overdiagnosis

Pub-Med studies 1970-2013

	Overtreatment		Overdiagnosis	
Cumulated years	Cumulated studies	Studies per 5 ys interval	Cumulated studies	Studies per 5 ys interval
Last 5 ys	831	831	611	611
Last 10 ys	1173	342	914	303
Last 15 ys	1468	295	1146	232
Last 20 ys	1647	179	1272	126
Last 25 ys	1774	127	1362	90
>25 ys	1915	141	1465	103

# Scientific research on overtreatment and/or overdiagnosis

## N° of Pub-Med studies per yr



# The most recent study on overdiagnosis (in pubmed)

- **Essay**
- **Overdiagnosis: when good intentions meet vested interests—an essay by Iona Heath**
- *BMJ 2013; 347 doi:  
<http://dx.doi.org/10.1136/bmj.f6361>  
(Published 25 October 2013) Cite this as: *BMJ*  
2013;347:f6361*

# The most recent study on overtreatment (in pubmed)

- [Expert Rev Hematol.](#) 2013 Oct 30. [Epub ahead of print]
- **The risk of CNS involvement in aggressive lymphomas in the rituximab era.**
- [Benevolo G](#), [Chiappella A](#), [Vitolo U](#).
- Hematology, Città della Salute e della Scienza Hospital, Corso Bramante 88 10126, Torino, Italy

But what are we talking about  
when we talk of  
overtreatment/overdiagnosis?

# MERRIAM WEBSTER

**Overdiagnosis:** the diagnosis of a condition or disease more often than it is actually present

**Over-treatment:** too much or too great/so as to be better or beyond

# COLLINS

**Overtreatment:** the act or instance of giving too much medical treatment

# WIKIPEDIA

**Overdiagnosis** is the [diagnosis](#) of "disease" that will never cause [symptoms](#) or death during a [patient's](#) lifetime. Overdiagnosis is a [side effect](#) of [testing for early forms of disease](#) which may turn people into patients unnecessarily and may lead to [treatments](#) that do no good and perhaps do harm.

Unnecessary health care, commonly called overutilization or **Overtreatment**, refers to medical services that are provided with a higher volume or cost than is appropriate.



# **Overtreatment: a tentative definition**

**Overtreatment** refers to the administration of whatever medical service or intervention which is not effective according to the available scientific evidences or to the widest professional consensus, when scientific evidences are still lacking,

**OR**

the health risks of which result higher than the expected advantages or higher than those considered as acceptable according to the available scientific evidences or to the widest professional consensus, when scientific evidences are still lacking

# Overdiagnosis: a tentative definition

**Overdiagnosis** implies the identification as a “disease” of whatever anomaly, lesion, or individual biological feature, about which scientific evidences are not available or the widest professional consensus was not attained, when scientific evidences are still lacking, to confirm that:

- The observed anomaly constitutes an actual health damage
- The observed anomaly represents an impending or future relevant health risk
- The observed anomaly is liable to effective medical intervention

# What are we talking about when we talk of overtreatment/overdiagnosis

	Over diagnosis	possibly appropriate	definitely appropriate	possibly appropriate	Under diagnosis	
Over treatment	Over treatment	Over treatment	Over treatment	Over treatment	Over treatment	Over treatment
possibly appropriate	Over treatment	possibly appropriate	definitely appropriate	possibly appropriate	Over treatment	possibly appropriate
definitely appropriate	possibly appropriate	definitely appropriate	definitely appropriate	definitely appropriate	possibly appropriate	definitely appropriate
possibly appropriate	Over treatment	possibly appropriate	definitely appropriate	possibly appropriate	Over treatment	possibly appropriate
Under treatment	Under treatment	Under treatment	Under treatment	Under treatment	Under treatment	Under treatment
	Over diagnosis	possibly appropriate	definitely appropriate	possibly appropriate	Under diagnosis	

# **Moving boundaries and fixing boundaries**

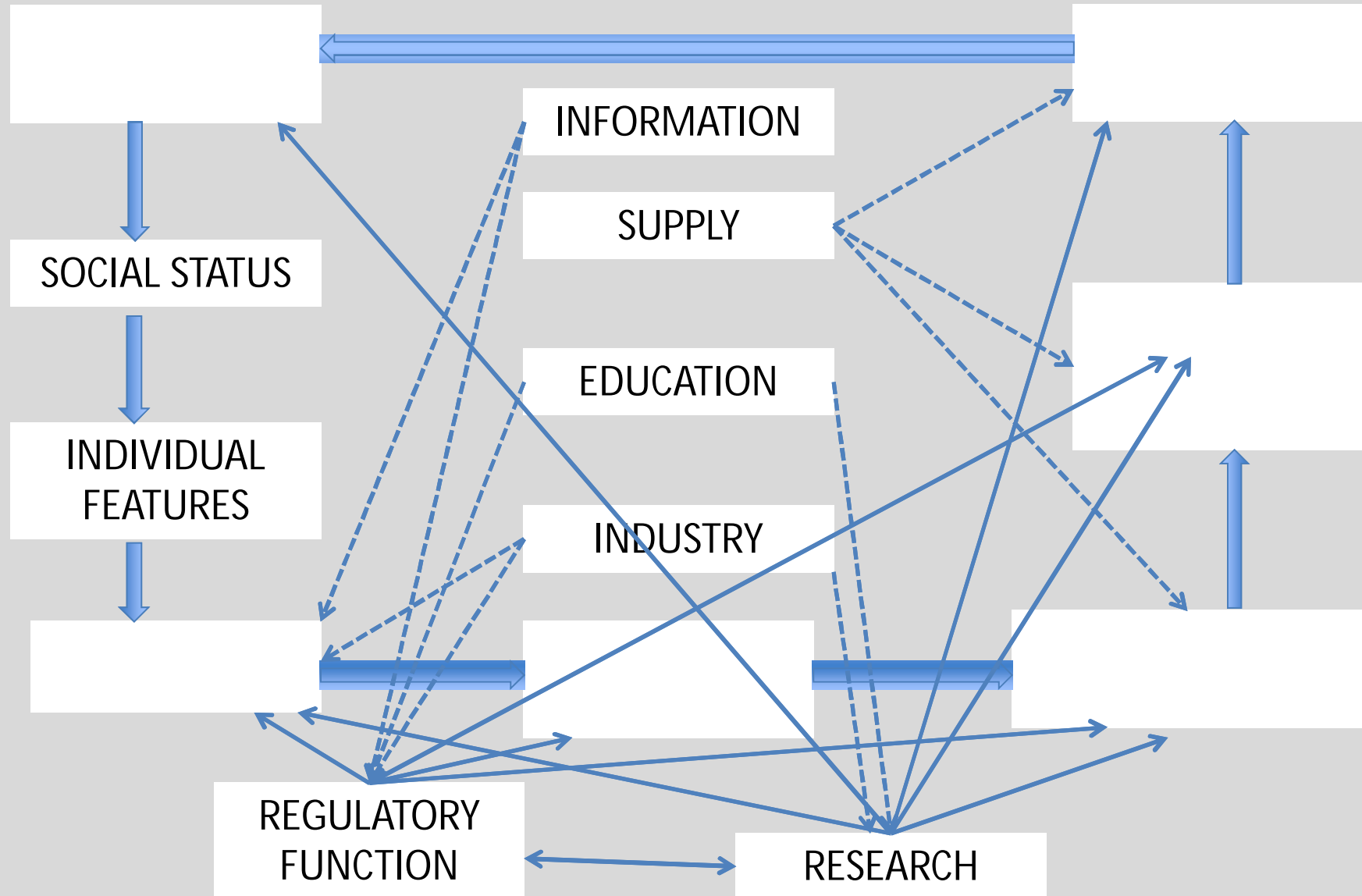
The boundaries between Diagnosis and Over/Under Diagnosis as well as the boundaries between Appropriate Treatment and Over/Under Treatment are constantly on the move depending on the evolving scientific evidences (or professional consensus) and must be constantly reassessed taking into account the range of uncertainty of the available scientific evidences (or professional consensus).

However boundaries must be established to assist patient choices and health policies

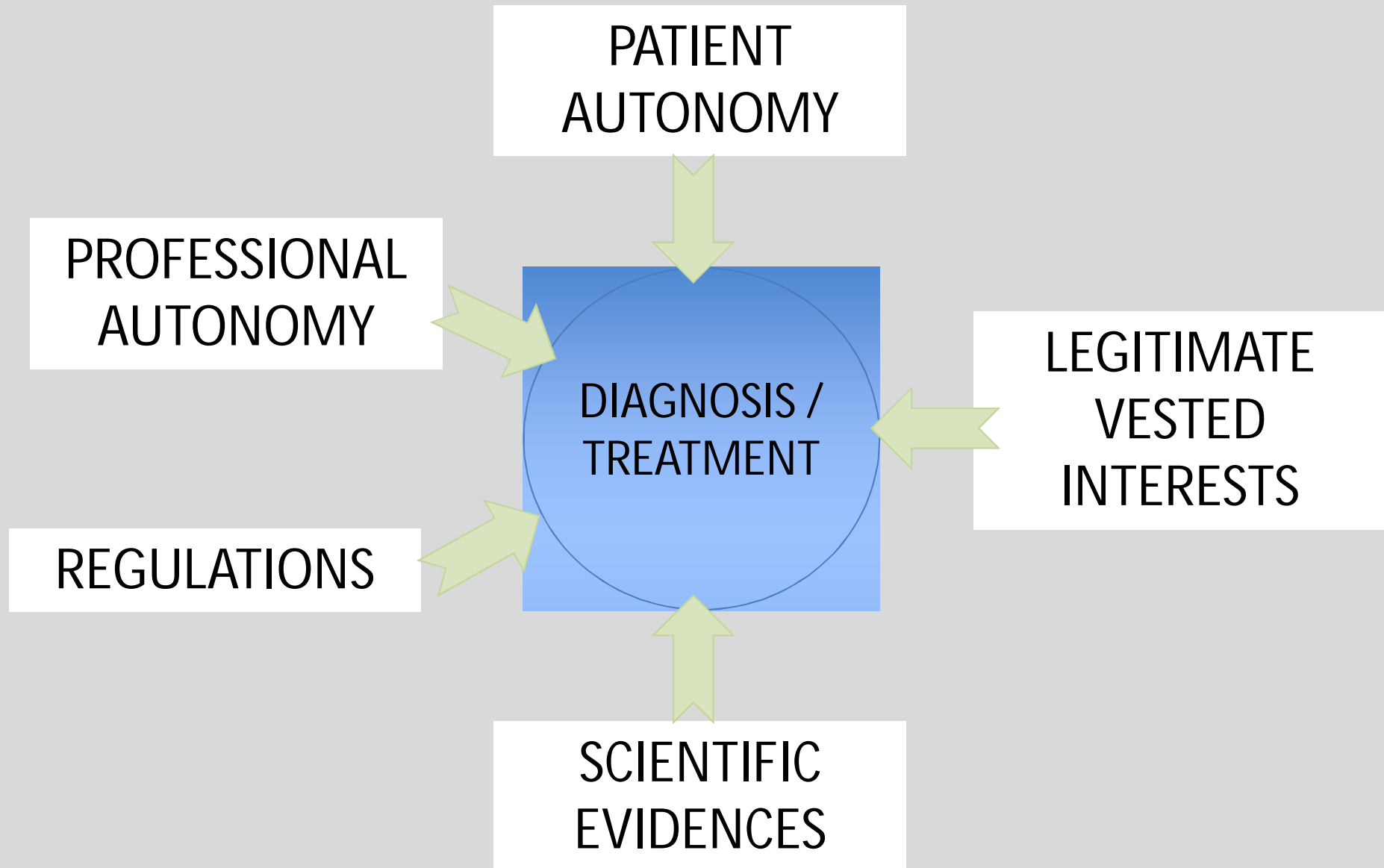
## From reasoning to practicing:

- How can the range of uncertainty of an increasing scientific knowledge can be accommodated in patient choices and in policy decisions?
- Which is the role of patient empowerment?
- Which is the role of public health?

# Diagnosis-Treatment cycle



# A difficult balance



# A difficult balance

SCIENTIFIC  
EVIDENCES

PATIENT  
AUTONOMY

PROFESSIONAL  
AUTONOMY

LEGITIMATE  
VESTED INTERESTS

REGULATIONS