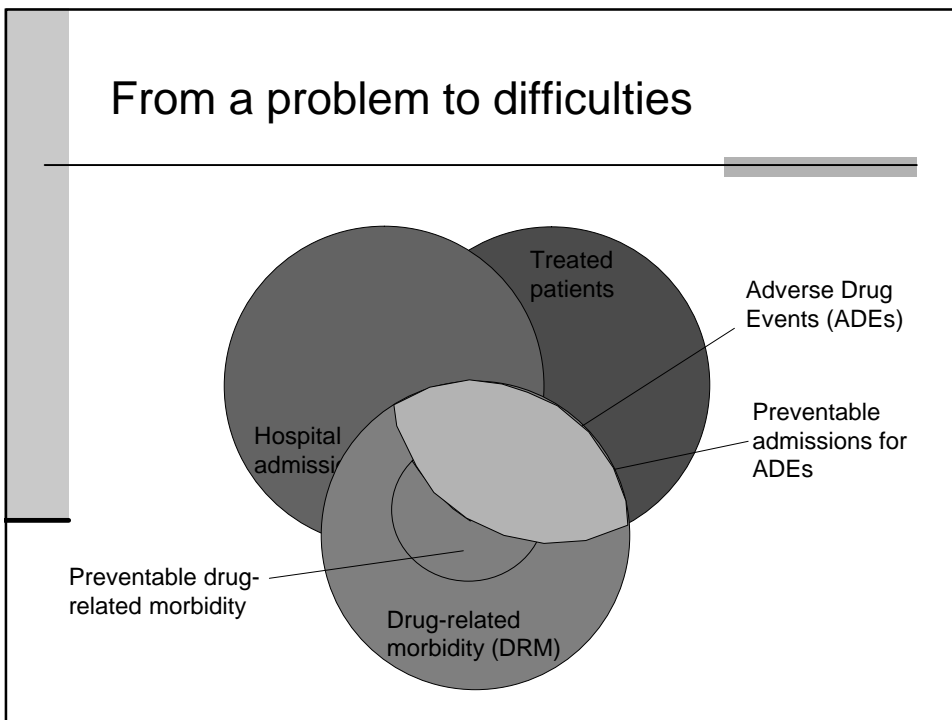


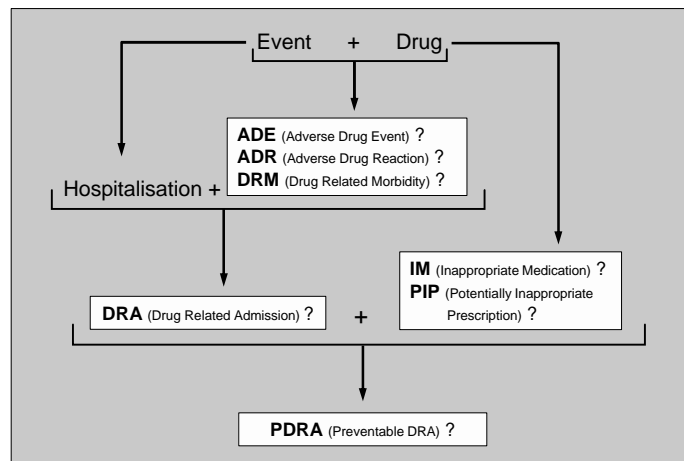
**European Academy for**  
IKB Foundation Stion  
Switzerland **Medicine of Ageing**  
a new network for geriatricians in Europe

**Sebastien Weill-Engerer**  
Assistance Publique – Hôpitaux de Paris  
Hôpital Rothschild  
Paris, France

**Adverse drug event (ADE)  
as a cause of hospital admission**



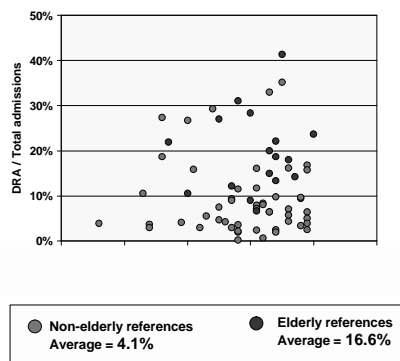
## Attributability and preventability



## Questions...

- Which proportion of treated patients are hospitalised for ADE ?
- Which proportion of hospitalisations are caused by ADE ?
- What are the main causes of hospitalisation for ADE ?
- Which part of them are preventable ?

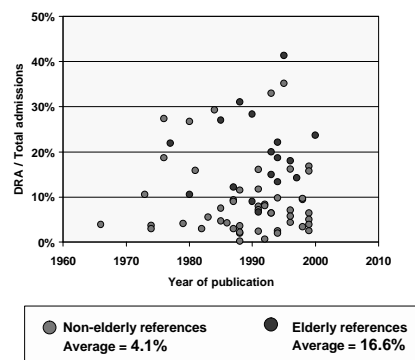
## Reliability of studies : problems with old studies



Beijer, Pharm World Sci, 2002

## Reliability of studies : problems with old studies

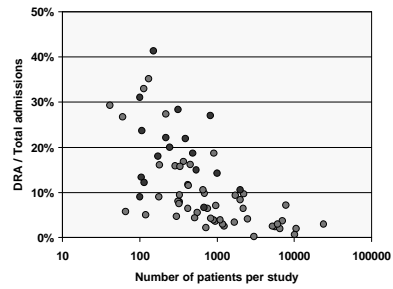
- Demographic have changed
- Practice have changed
- Definitions have changed



Beijer, Pharm World Sci, 2002

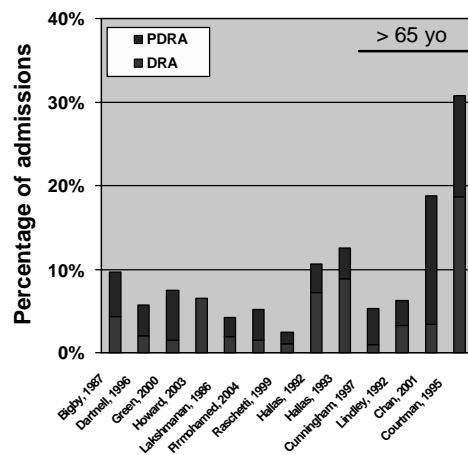
## Reliability of studies (ctd) : other problems

- Prospective vs retrospective
- Criteria chosen
  - Direct ADE / undirect DRM
  - Prescription error / Compliance error
- Differences between countries



Beijer, Pharm World Sci, 2002

## Preventable drug related admissions : prospective studies



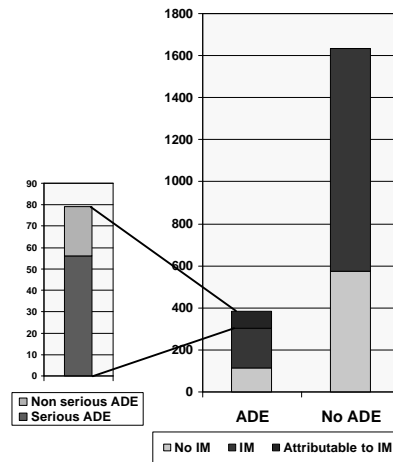
Howard, Br J Clin Pharmacol, 2006

## Hospitalisations attributable to inappropriate medications (IM) in a geriatric ward

- Limoges, France
- Acute medical geriatric unit
- 2018 patients / 49 months
- 69% female
- 66% home-dwelling
- 19% ADE
- 11% serious ADE

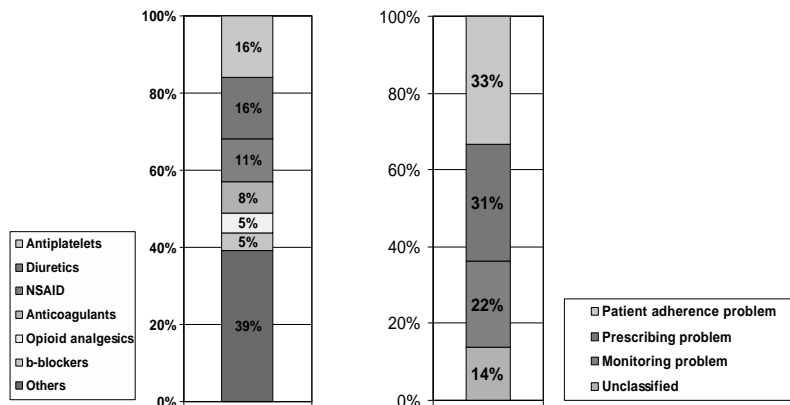
Serious ADE attributable to IM =

- 25% out of all serious ADEs
- 15% out of all ADEs
- 4.2% out of all IM
- 2.8% out of all hospitalisations



Laroche, Br J Clin Pharmacol, 2006

## Causes associated with preventable drug-related admissions



Howard *et al.*, Br J Clin Pharmacol, 2006

## Clinical conditions associated with drug related admissions

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- Living in institution (OR = 1.5)
- Impaired renal function (OR = 1.3)
- Congestive heart failure (OR = 1.3)
- Number of drugs

Lau, Arch Intern Med, 2007  
Laroche, Br J Clin Pharmacol, 2006

## Take home messages

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- Data on prevalence, attributability and preventability of hospitalisations for ADE still need to be precised
- In elderly, hospitalisations for ADE account for 5-20% out of all hospitalisations
- Half to a third of drug related admissions seems to be preventable
- Inappropriate medication does not seem to be the major cause in the elderly. Inappropriate use of the drugs could be more important
- The main preventable factor remains the reduction in the number of drugs given
- Overtreating and undertreating may be equally dangerous

Let's be cautious

