

# GIMBE

3rd International Conference of Evidence-Based  
Health Care Teachers and Developers

Building Bridges Between  
Research and Teaching

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## Evidence-Based Economic Decisions



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# Evidence-Based Economic Decisions

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- Economic decisions
- The example of Lufthansa
- The hypothesis
- The model of breast cancer screening
- Summary

# Evidence-Based Economic Decisions

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## □ Economic decisions

- Comparing costs and consequences of alternative ways of actions

- Example breast cancer screening

costs: disadvantages

consequences: advantages

ways of actions: +/- mammography

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- The example of Lufthansa
    - Negative evidence for the usefulness of life vests
      - No water, or too cold or too hard
    - Replacement of life vests by more effective and more efficient measures is NOT accepted
    - Must be something like **PERCEIVED SAFETY**
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# Evidence-Based Economic Decisions

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- The hypothesis
    - Perceived safety is an important domain in our daily life
      - Large amounts of money are spent to protect our properties, for safe to driving/flying
      - Managers pay for health check ups to „be on the safe side“
      - Diagnostic medicine spends billions to generate perceived safety
      - Patient information leaflets are an example for perceived unsafety
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# Evidence-Based Economic Decisions

## □ The model of breast cancer screening

|                             | Breast cancer confirmed | No breast cancer confirmed | Total |
|-----------------------------|-------------------------|----------------------------|-------|
| Detected by mammography     | 23                      | <b>219</b>                 | 242   |
| Not detected by mammography | <b>10</b>               | 748                        | 758   |
| Total with mammography      | 33                      | 967                        | 1000  |
| Total without mammography   |                         |                            |       |

# Evidence-Based Economic Decisions

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- Summary I
  - Disadvantages
    - 219 false positives
    - 10 false negatives

# Evidence-Based Economic Decisions

## □ The model of breast cancer screening

|                             | Breast cancer confirmed     | No breast cancer confirmed | Total |
|-----------------------------|-----------------------------|----------------------------|-------|
| Detected by mammography     | 23                          | <b>219</b>                 | 242   |
| Not detected by mammography | <b>10</b>                   | 748                        | 758   |
| Total with mammography      | 33                          | 967                        | 1000  |
| Total without mammography   | 20<br><b>13 cases less!</b> | 980                        | 1000  |

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## □ Summary II

### ■ Disadvantages

- 219 false positives
- 10 false negatives
- 13 cases of pseudo-disease

Fig. 1: Survival benefit by mammography 21%???

- Of all patients?
- Of patients at risk?
- Of screened patients at risk?

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Fig. 2: When all women are considered who were included in a screening program only 1 of 100 will benefit.

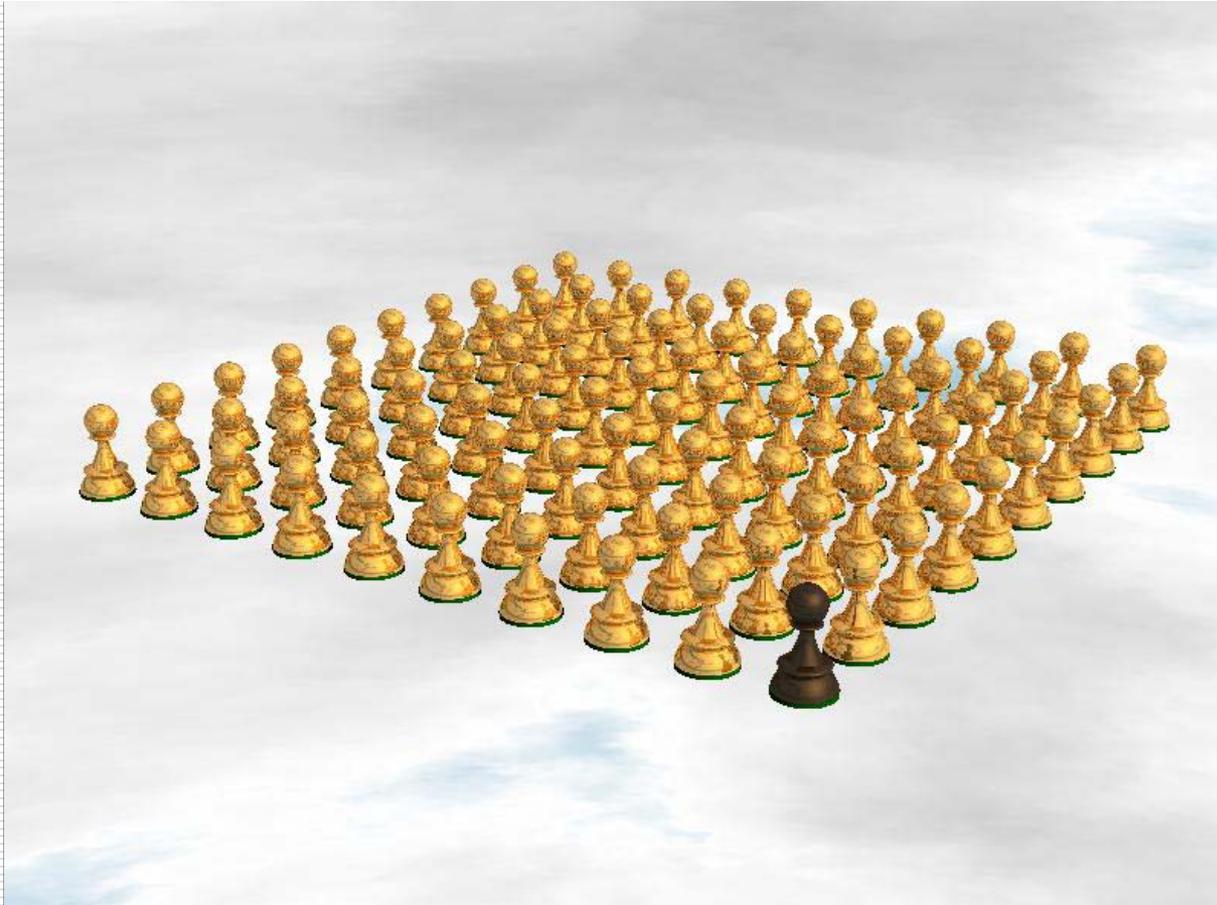
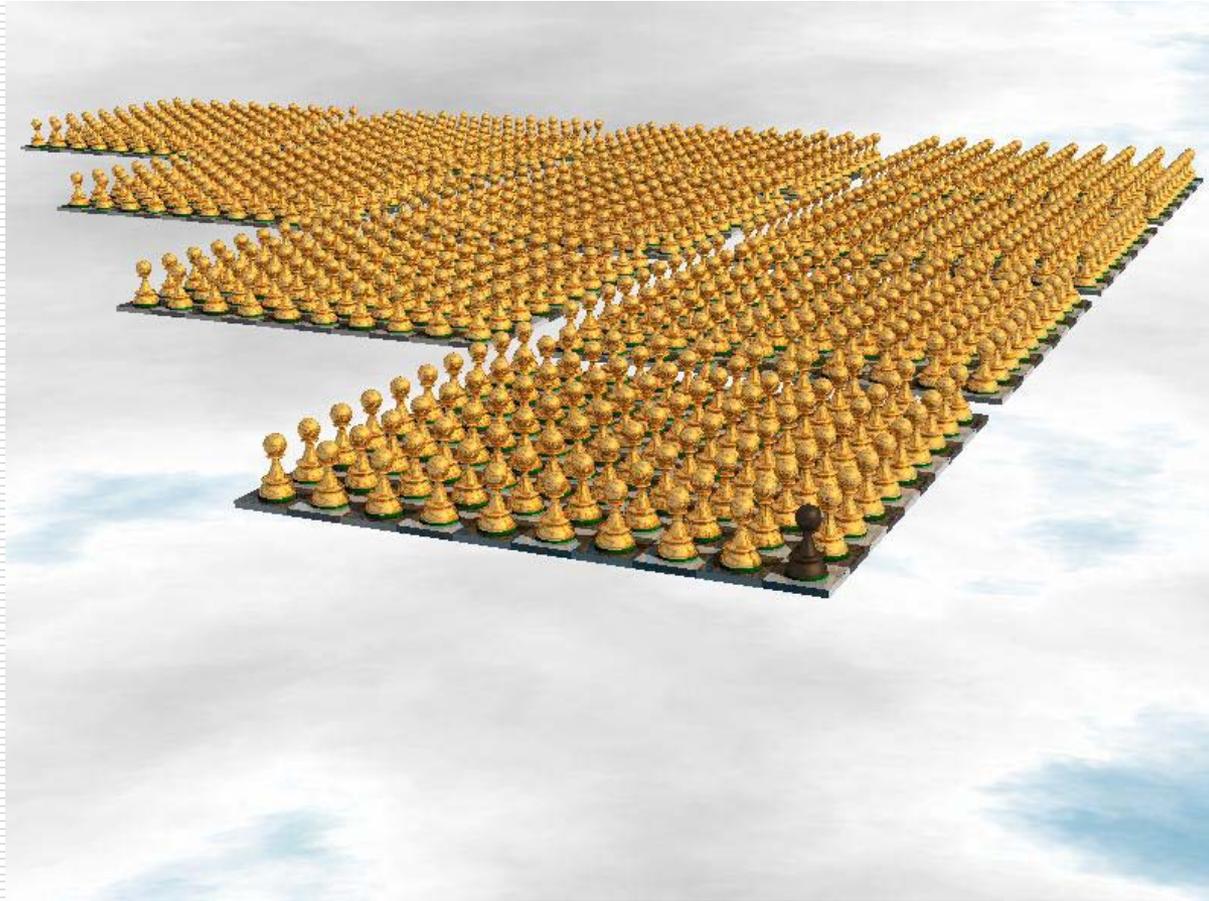


Fig.3: When in addition the risk of the subgroup is considered which was used to calculate the risk, only 1 of 1000 will have a survival benefit



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## □ Summary III

### ■ Disadvantages

- 219 false positives
- 10 false negatives
- 13 cases of pseudo-disease

### ■ Advantages

- 1 survival benefit

that's all we can offer?

# Evidence-Based Economic Decisions

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## □ Summary III

### ■ Disadvantages

- 219 false positives
- 10 false negatives
- 13 cases of pseudo-disease

### ■ Advantages

- 1 survival benefit
- 967 patients with PERCEIVED SAFETY

# Evidence-Based Economic Decisions

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- Summary IV
  - Perceived safety may be a new dimension providing evidence for the usefulness of health care services
  - Project on „Perceived Safety – Perceived Health“ will be started Nov.9th 2005 together with
    - Manfred Müller, Head Flight Safety, Lufthansa
    - Robert Kaplan, Dept Health Services, UCLA
    - 20 academic institutions and companies
  - EBHC developers interested in this type of outcomes research are invited to participate in the necessary discussion