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RÉPUBLIQUE FRANÇAISE


COordination for **M**easuring
Performance and **A**ssuring **Q**uality in
Hospitals (COMPAQH)



Comparison of different methods: aggregating quality indicators issued from guidelines in acute myocardial infarction at discharge care


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The COMPAQH Project



- COMPAQH: **CO**ordination for **M**easuring
Performance and **A**ssuring **Q**uality in **H**ospitals

- A French operational research project
 - Run by the French national institute for research in health care
 - One of its objectives is to develop quality indicators and to establish effective ways of using them (make them readable for the public)

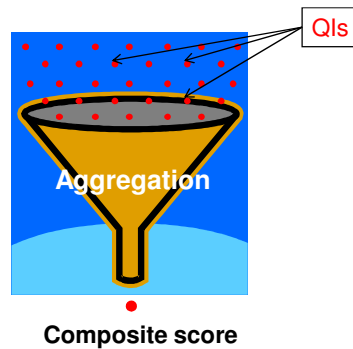
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Aggregation



- A composite score (CS) is a mathematical combination of several individual indicators => an easier way to understand information for the public



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Objectives



- To **compare different aggregation methods** on hospitals ranking in the specific case of the aggregation of 5 quality indicators (QI) measuring quality of care in acute myocardial infarction (AMI) at discharge
- To assess the potential unfairness in ranking due to the use of a specific aggregation method

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Indicators and Population



- 5 process quality indicators based on clinical guidelines:
 1. Aspirin and clopidogrel prescribed at discharge
 2. Beta-blocker prescribed at discharge
 3. Left ventricular ejection fraction (LVEF) measured
 4. Statin prescribed at discharge
 5. Advice on diet
- Random sample of 60 medical records/hospital
- QI = percentage of patients who received the process of care
- 56 hospitals - 3259 patients

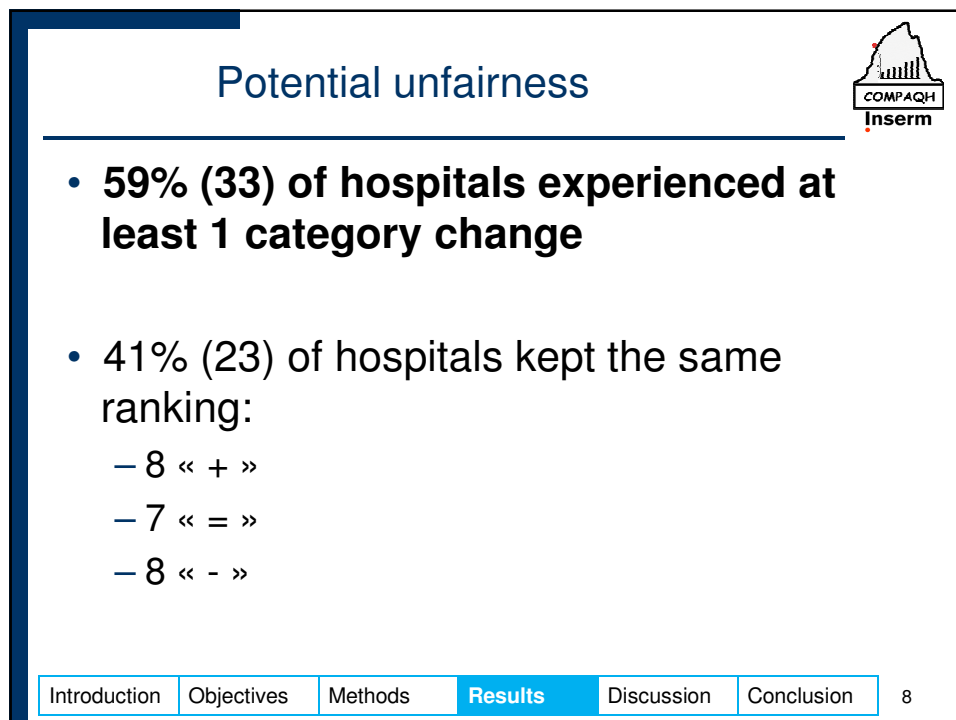
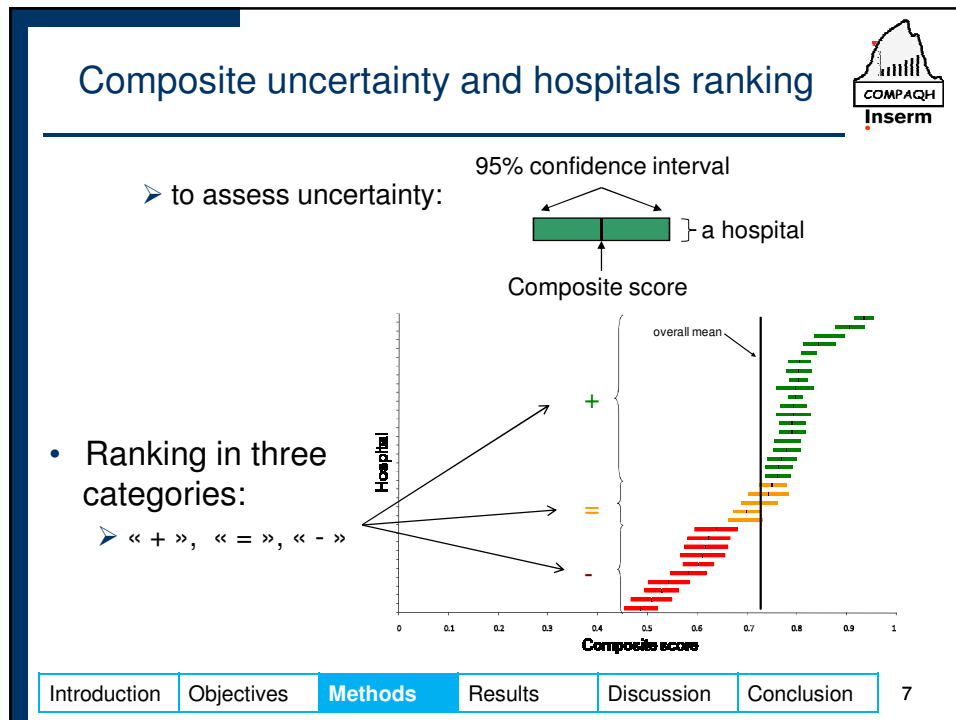
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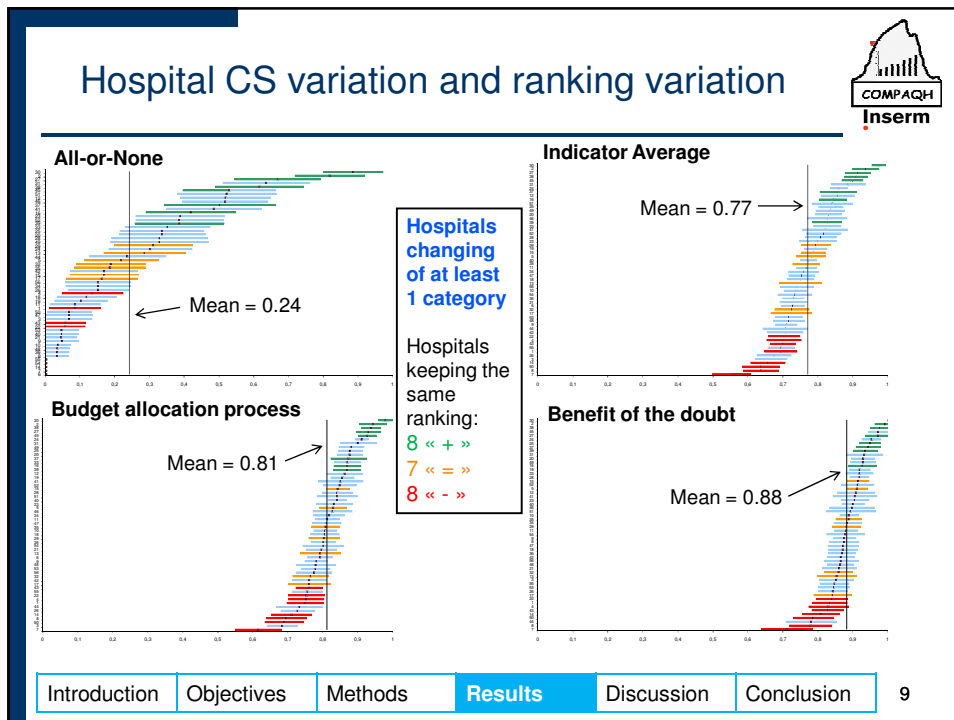
Aggregation methods



1. **“All-or-none”**
 - Patient score = 1 if all QIs scored 1; 0 if at least 1 QI scored 0
 - Hospital CS = average of patient scores
2. **“Indicator average”**
 - Each QI = same weight
 - Hospital CS = average of QIs
3. **“Budget allocation process”**
 - 13 cardiologists divided a “budget” of 100 points among the QIs
 - Weights = average budgets
 - Hospital CS = weighted sum of QIs
4. **“Benefit of the doubt”**
 - Each indicator is assigned a weight maximizing the CS for each hospital
 - Hospital CS = weighted sum of QIs

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How can a choice be made?

- A change of method led to a change of rank for most hospitals
 - potential source of unfairness

Avoiding constructing CS could be a solution, but the public is demanding for clear information on hospitals and institutions already use them

- The rationale of each method can help decision-makers make a choice

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Rationale of each method (1/2)



- **All-or-none**
 - Rewards excellence
 - Gives the percentage of patients for whom all aspects of care were met
- **Indicator average**
 - Simplicity
 - Gives a measure of average quality
- Both methods give the same value to guidelines supporting QIs (even though the calculation is different)

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Rationale of each method (2/2)



- **Budget allocation process**
 - Professional legitimacy
 - Graduates the value given to each guideline from experts' opinion
- **Benefit of the doubt**
 - Favors reward over sanction
 - Promotes best results issued from the application of guidelines

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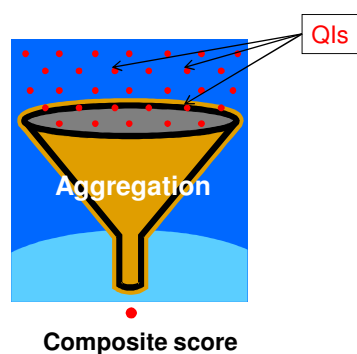
Conclusion



- Individual QIs help hospitals improve their action
- CS are easier to understand by the public
- ◆ Caution: unfairness. Different aggregation methods lead to different hospitals ranking
- The rationale of the method and information on uncertainty must be provided

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Aggregating quality indicators



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No author conflict of interest



- All authors declare they had:
 - No financial support for the submitted work from anyone other than their employer
 - No financial relationships with commercial entities that might have an interest in the submitted work
 - No spouses, partners, or children with relationships with commercial entities that might have an interest in the submitted work
 - No Non-financial interests that may be relevant to the submitted work

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