Semantic Interoperability for Integration of Clinical Information and Quality Indicators

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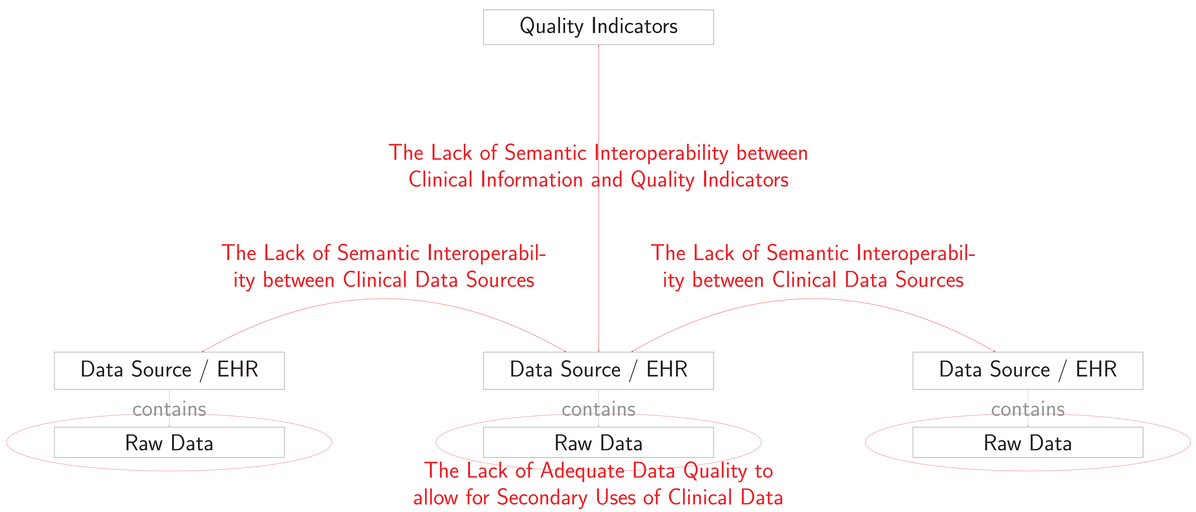
If you can not measure it, you can not improve it. Lord Kelvin

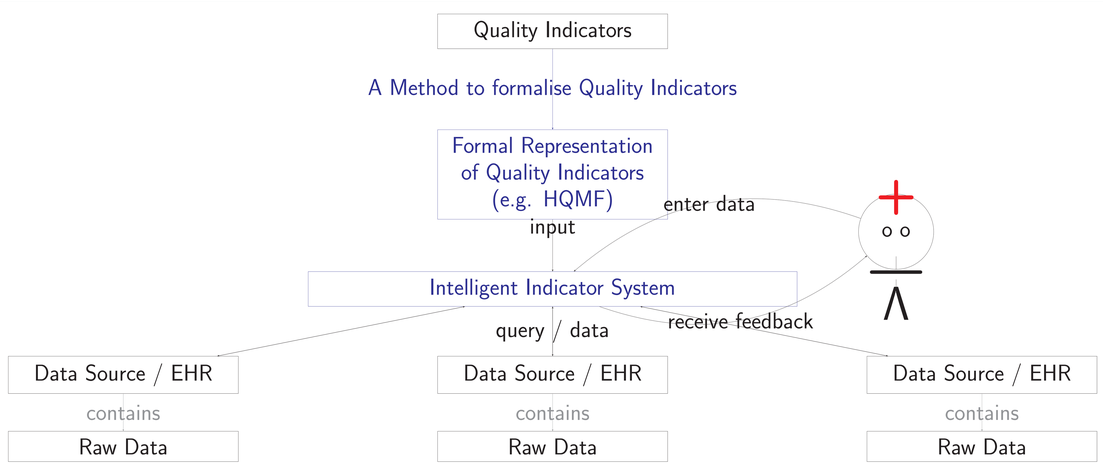
Definition Quality Indicator

"A measurable element of practice performance for which there is evidence or consensus that it can be used to assess the quality, and hence change in the quality, of care provided."
(Lawrence 1997)

Addressed Problems



Planned Approach

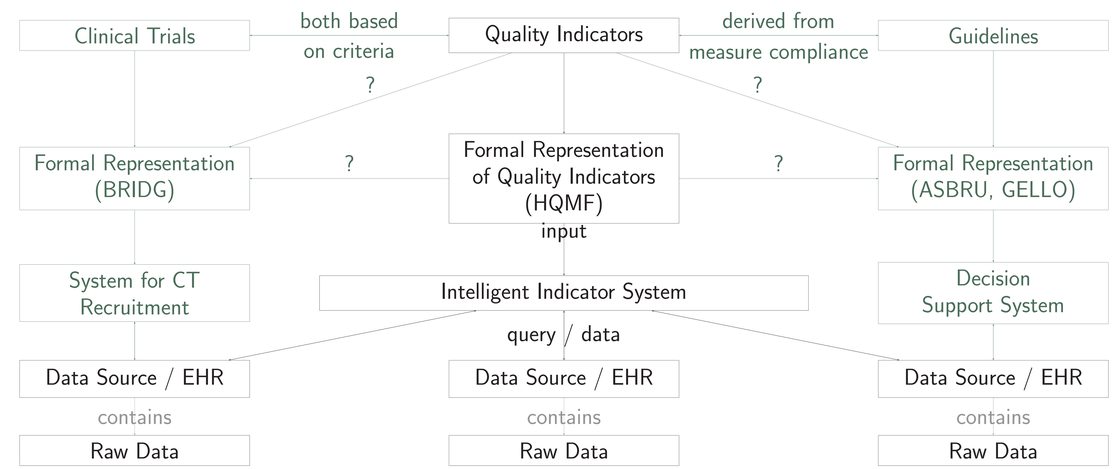


Research Questions

RQ1. What are the requirements to derive quality indicators unobtrusively by using data already collected during the clinical care process?

RQ2. To what extent must and can current processes and systems be adjusted to facilitate data capture at the required quality levels?

Relations to Clinical Trials and Guidelines



Examples

Guideline (Recommendation): Minimum number of lymph-nodes to assess stadium
In order to assess a patient's lymph-node status, as many lymph-nodes as possible have to be examined with the help of conventional techniques. A minimum of 10 lymph-nodes is recommended to assess a negative lymph-node status.

Quality Indicator: Number of examined lymph-nodes after resection
Nominator: Number of patients who had 10 or more lymph-nodes examined after a resection of a primary colon carcinoma.
Denominator: Number of patients who had lymph-nodes examined after a resection of a primary colon carcinoma.
Exclusion Criteria: Patients with previous radiotherapy; recurrent colon carcinoma.

Clinical Trial: Colon Cancer Prognosis After Radical Surgery
Purpose: Radical surgery is supposed to improve prognosis of colon cancer. (Surrogate measure of achievement is the number of lymph nodes removed.)
Inclusion Criteria: Malignant tumor (adenocarcinoma) of the large intestine (colon); willingness to participate
Exclusion Criteria: No radical resection (R0) possible; unwilling to participate or medically unfit to undergo follow-up

I just completed my first year, and this poster contains my research plan for the next three years.

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