Data, Outcomes, and Evidence: Data Science in The Life Cycle of Evidence Based Medicine

Johannes Starlinger
Important notice: Several slides contained in the original, oral presentation which showed copyrighted material and/or unpublished results have been redacted/removed.
About me

Studied Medicine

Studied Computer Science

PhD Computer Science

Biomedical Data Researcher

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About me

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[Health] Data Software

Freelance

[Health] Data Software

Start-up
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The Life Cycle of Evidence Based Medicine
The Life Cycle of Evidence Based Medicine

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- Synthesis of Recommendations
- COI Assessment
- Consensus Process
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- Evidence Review

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- Hypothesis Generation
- Outcome Analysis

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Data Science?
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AWMF

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About the patient

Graphic and commentary removed, please refer to

Weber et al. Finding the Missing Link for Big Biomedical Data, JAMA June 25, 2014, Volume 311, Number 24, pp. 2479
Evidence Based  ↔  Personalized Medicine
Evidence Based

Cohort Size

Personalized Medicine
Evidence Based

<table>
<thead>
<tr>
<th>Number of Features</th>
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<tbody>
<tr>
<td>Cohort Size</td>
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Personalized Medicine
Evidence Based

Personalized Medicine

Number of Features

Cohort Size

Data Science!
Unpublished example removed
Evidence Based  

Personalized Medicine  

Data Science!
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Data Science in the Life Cycle of Evidence Based Medicine
Clinical Practice Guidelines

Data

Data Science!
Data Science!

Analysis

Intensive Care

Anesthesia

Routine Care

Notes, letters, reports
Plotting | Analysis | Prep

Notes, letters, reports

Data Science!
Plotting

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Prep

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Outcomes Research
Data Science!