

The STRengthening Analytical Thinking for Observational Studies (STRATOS) initiative – Summary and next steps

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STRATOS
INITIATIVE



COMMENTARY

Methodology over metrics: current scientific standards are a disservice to patients and society

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Issues resulting from the current organization of science that lead to research waste

- Research incentives focus on quantity, rather than methodological quality
- Funders and journals prioritize novelty over incremental and replication research
- Researchers' agendas are dictated by short-term deadlines
- Peer review remains unacknowledged
- Methodological illiteracy is still accepted
- Transparent and complete reporting remains rare

Table 2: Practices resulting from prioritizing publication appearance over publication quality

Table 3:

Examples of initiatives to improve the methodology and reproducibility of research

- Establishment of reproducibility networks and research centers
- Lancet series on research waste in 2014
- Hong Kong principles for research assessment
- EQUATOR network (Enhancing the QUALity and Transparency Of health Research)
- STRATOS (STRengthening Analytical Thinking for Observational Studies)
- Center for Open Science (COS)
- Study registries and Registered reports
- Transparency and Openness Promotion (TOP) Committee
- Findability, Accessibility, Interoperability, and Reusability (FAIR) principles
- Methodological/statistical reviewing
- Reviewer recognition (e.g. Publons)
- Replication grants

Level 1 – more teaching material needed

- Videos

- Shiny Apps

to motivate all TGs and some panels

- Review of TG2 of guidance material for level 1

Other TGs to conduct a similar review for their topics?

Knowledge Translation

- Courses from several groups for level 2
 - More courses?
 - Sessions and courses at medical meetings? (level 1)
- Biometric Bulletin since 3/2017
 - Next articles: 1/2022: TG7, 2/2022:?
 - 3/2022: Achievements of STRATOS
 - Articles about projects (SISAQOL, p-values)
- Newsletter 1: May 2018, Newsletter 2: May 2022?
- Webinars for level 1 and/or 2?
- Further ideas to improve KT?

Cooperations

- Officially with ISCB and IBS

 - Other scientific societies and initiatives?

- SISAQOL

- Glossary – needed worldwide

 - How to get other societies or initiatives involved?

Meetings

- DAG Stat Hamburg (end March)
- IBC (July)
- ISCB (August)
- Who is willing to organize a meeting at another conference?

- Virtual STRATOS meeting in 2022 (2 days in October?)
- In person meeting – when and where?

STRATOS initiative - Improvements

- Internal Website started in October
- Open Science interest group formed in November
- Cooperations between groups intensified in November
- At least 3 TC of SG per year (start in 2022)
- Intended Newsletter in May 2022