



**University of  
Zurich<sup>UZH</sup>**



**Network  
for Evaluation  
of One Health**

# NEOH Handbook

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Simon Rüegg

NEOH is supported by





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# Authoring

- Coordination

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Chapter 8	Roberto Esposito

- Co-Authors: **many**



# Evaluation of Approaches to Health with a focus on One Health

- History of One Health
- Combined approaches to health are needed because health of environment, humans, domestic animals and wildlife is an important component for sustainability and resilience of the planet.
- Problem of asymmetry of health definitions and metrics in the human-animal-environment-triade
- Funding mechanisms exist for OH, but governance doesn't change
- Introduction of the other chapters



# Roadmap to a OH Agenda 2030

- sustainable development is more than the sum of its parts
- Definitions of health of humans, animals, plants, environment
- History of One Health
- Have we moved towards an integrated approach? – In many ways not
- The potential of the SDG to advance in this integration
  - SDG1: End poverty ~ diarrhoeal diseases (top 10 killer) – zoonotic
  - SDG2: Food security & sustainable agriculture – Obesity resulting from food systems
  - SDG3: healthy lives & wellbeing – determinants of cardiovascular disease
  - SDG6: water & sanitation ~ schistosomiasis – «water health»
  - SDG13: climate change impacts ~ vector borne diseases
  - SDG14: conserve oceans as resource ~ ecosystem health
  - SDG15: conserve terrestrial ecosystems ~ emerging diseases



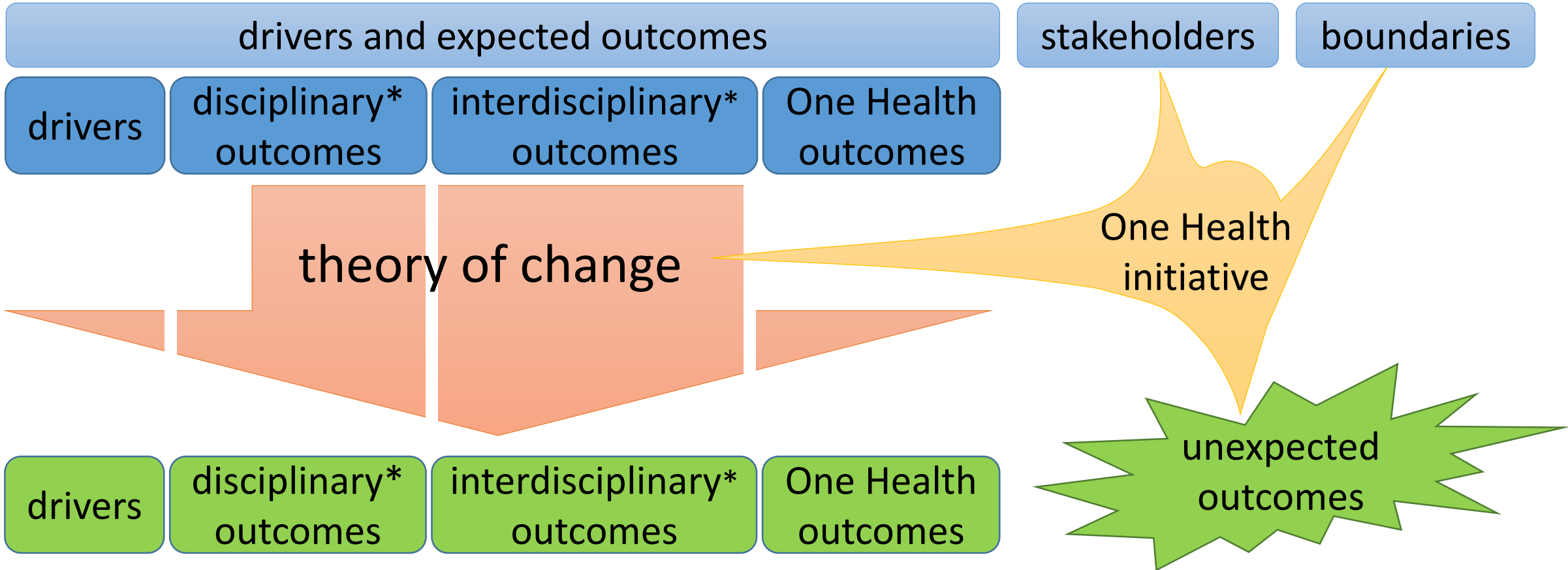
# Roadmap to a OH Agenda 2030

- Discussion
  - Classical decision making relies on scientific evidence & feasibility studies resulting in the selection of the «cheapest silver bullet».
  - Complex problems require to break out of this methodology and embrace a systems approach
- Conclusion
  - We must get away from the human-centric view of health and broaden its perspective
  - "Business as usual" will continue to achieve some apparent gains in human and domestic animal health through technological advancement, whilst failure to adopt non-linear and multi-sectoral approaches in biodiversity and ecosystems health are proving unsustainable.
  - SDG Agenda provides a unique and hopefully historic opportunity for the One Health paradigm



# A One Health Evaluation Framework

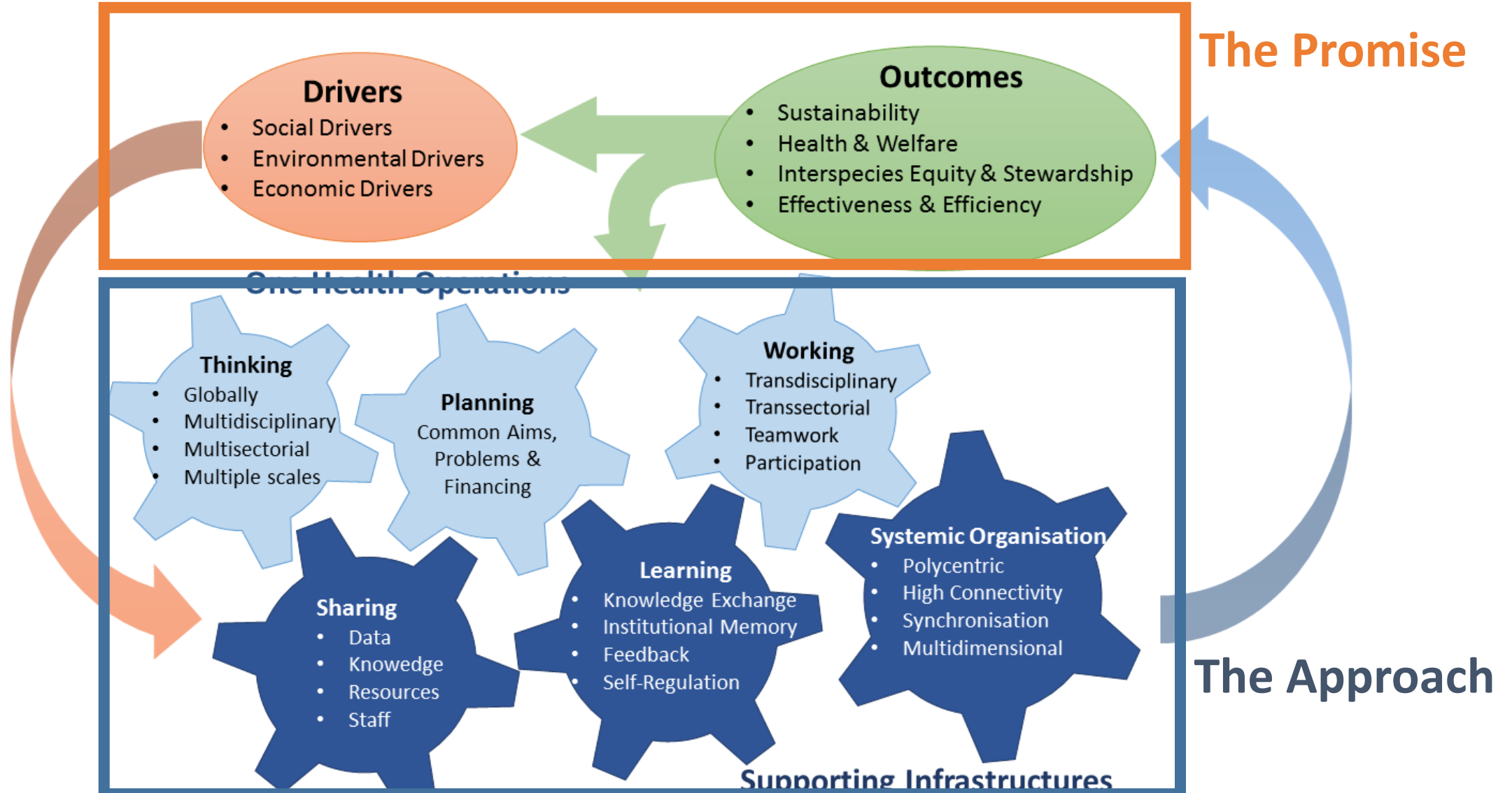
Chapter 3



\*for simplicity disciplinary stands for disciplinary and sectorial

# One Health Characteristics

Chapter 3

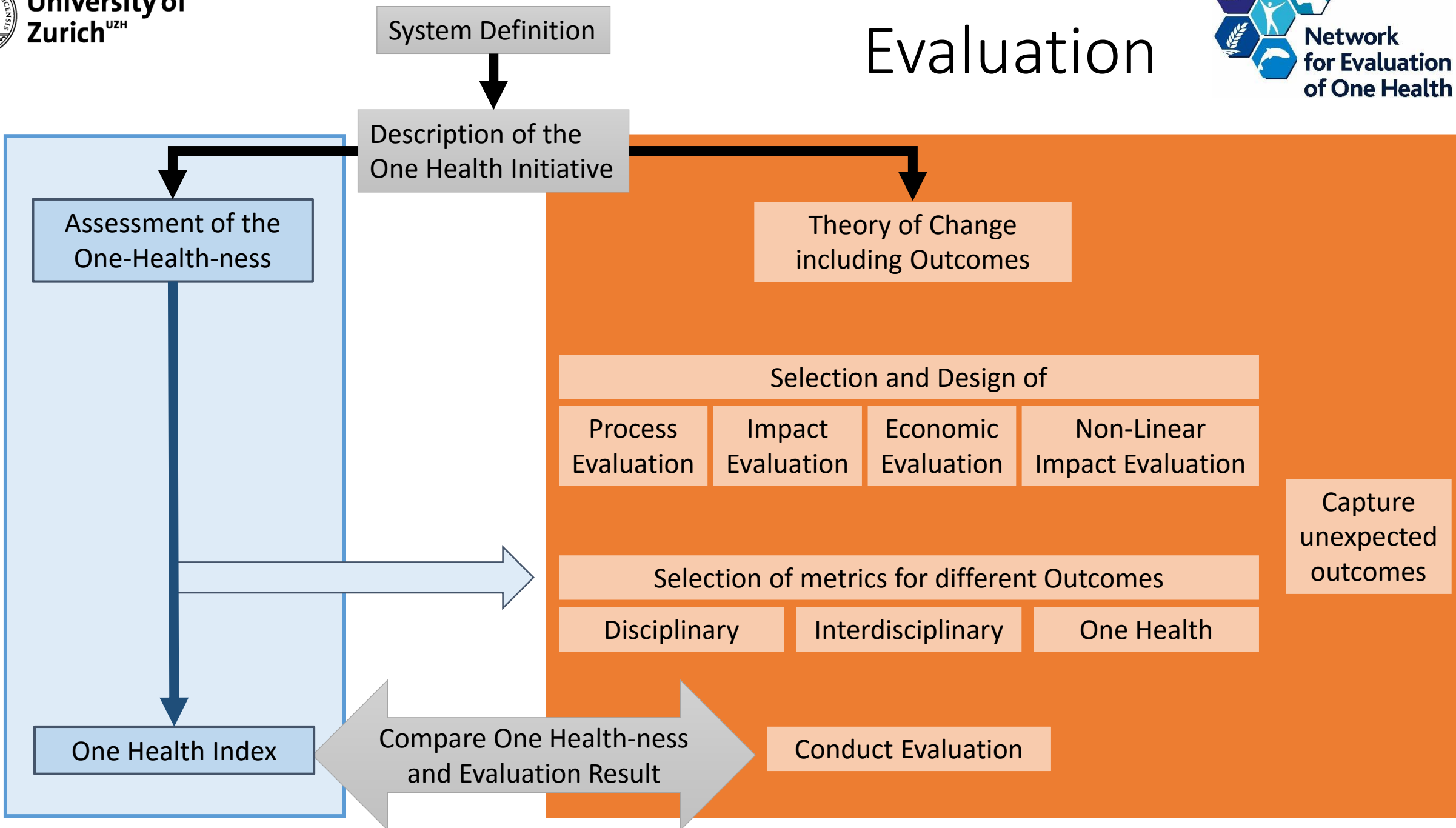






# Evaluation

Chapter 3





# One Health Methods and Metrics

- I. Ecological Dimension
- II. Social Sustainability
- III. Economic Evaluation

Chapters 4-7

*IV. Interactions and integration of the above*

Work in  
progress



# M&M I: Ecological Dimension

- The human-animal-environment interface
- Integrated human and animal surveillance
- Integrating ecological assessments
- How to capture (conceptualize) information, How to measure the value of information/knowledge
- Inconsistent data at different time and geographical scales
- Qualitative aspects



# M&M II: Social Sustainability

- Identify indicators for social sustainability in human, animal and environmental health
- Formulate questions to assess social sustainability of OH initiatives
- Discuss viability and trade-offs of these indicators.



# M&M II: Social Sustainability

- What is social sustainability
- The right of current people to satisfy their needs is equal to that same right of future generations.
- Principles of social sustainability are grounded in human rights.
- Indicators of social sustainability:
  - Diversity and inclusiveness of different groups
  - Equality and equity
  - Participation
  - Human capital
  - Solidarity
  - Partnerships
  - Quality of life
- Conditions framing OH initiatives and social sustainability



# M&M III: Economic Evaluation

- Economic evaluation is important for One Health because it justifies the efficient use of resources for OH.
- The main methods are
  - Cost-effectiveness analysis (CEA)
  - Cost-utility analysis (CUA)
  - Cost-benefit analysis (CBA)
- The use of money as single parameter is greatly discussed, hence we outline approaches integrating other social priorities to the economic criterion



# M&M III: Economic Evaluation

- The perspective of an economic evaluation determines whose costs and outcomes are included.
- It should be carefully assessed if the assumptions of a given economic evaluation framework are appropriate, in particular regarding:
  - Qualitative information
  - Changes in the institutional framework, societal preferences and cultural norms
  - Irreversible consequences
  - Efficiency as guiding principle in One Health



# M&M III: Economic Evaluation

- Dealing with complexity
  - Social-ecological systems framework
  - Food supply chain analysis
  - Bio-economic modelling
  - Dynamic transmission Model
  - Multi-Criteria Decision Analysis
- Data requirements and data sources





# One Health Governance

- Practices and definitions in Global Health and One Health
- Principles in health governance
- Commonalities in Global Health and One Health governance
- Current practice in Global Health and One Health governance



# NEOH Glossary

- Terminology varies in different fields of science and society
- One Health joins many fields with many such idiosyncrasies
- It will be essential to the success of the handbook to agree on a common terminology
  
- WG2 should identify all ambiguous terms and report them to me.



# The next steps

Task	Timeline
WG2 Training School	27.6.-1.7.2016
Submit evaluation design and the time plan	after training school (8.7.2016)
Implement Evaluation	July – December 2016
Feedback/ questions on handbook	Until End December 2016
Write report on evaluation	End December 2016
Present Evaluation	16/17 January 2017
Publish case study evaluations in a special issue of an Open Access Journal	Submission deadline February 2017
Meta-Analysis by WG3	Starting Dec 2016

**STSM  
4 JULY**



Questions?

Thank you for your contributions!