



Tracing reliable input data for modelling health impacts of Physical Activity interventions in NRW

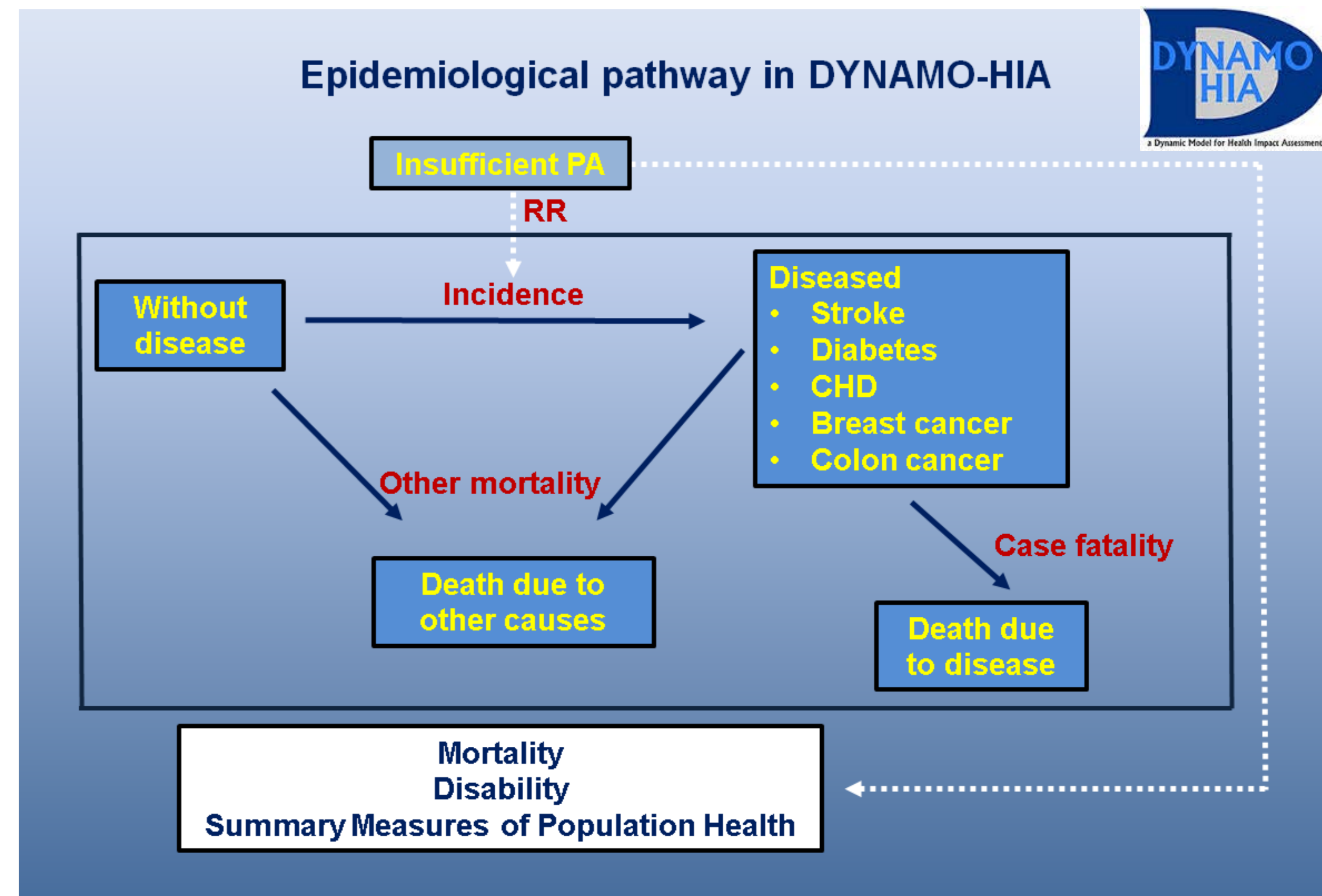
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Dynamic modelling of Physical Activity (PA) in NRW

- ▶ Estimating quantitative future impacts of intervention measures on the health outcomes of a target population with the DYNAMO-HIA model [1].
- ▶ Considering probable changes in individual risk exposure over the life course („transition probabilities“).

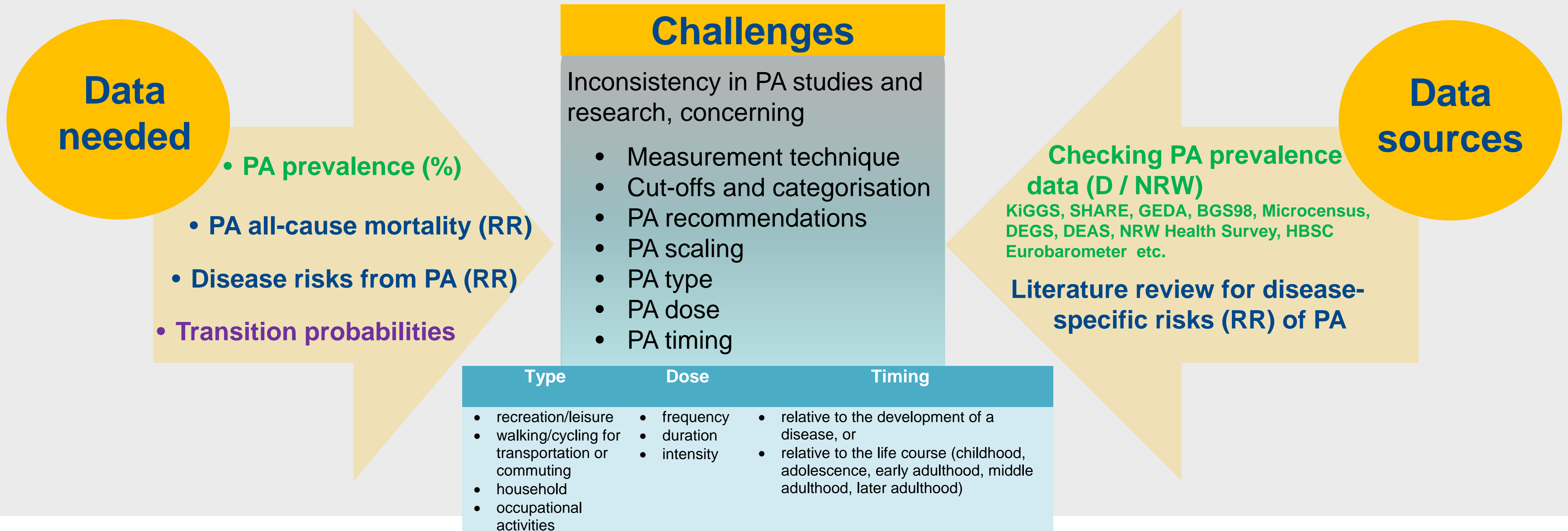


To model impact estimates of Physical Activity (PA) interventions in NRW, reliable and representative data on PA prevalence and dose-response relations (RR) with associated diseases have to be identified.



Background

Steps



PA prevalence

Age 0-17: KiGGS wave 1, RKI [2]
Age 18-99: GEDA-NRW 2009/2010, RKI [3]
DYNAMO-HIA requires age- and sex-specific input data.
▶ Data processing (imputation and smoothing) necessary.

Relative risks estimates for PA

14 meta-analyses and reviews and 4 large-scale individual studies were identified in the literature review. Inclusion criteria used: recent large-scale studies, conservative approaches, comparing 2 or 3 categories of PA. Studies that categorised exposure of PA in accordance to the prevalence data available for Germany / NRW were prior.

Conclusion

DYNAMO-HIA database expansion by risk factor physical activity is feasible albeit challenging. Assumptions and compromises have to be made with regard to transferability, e.g.

- ▶ International dose-response RR estimates from the literature are assumed to be applicable for NRW / Germany and for different age groups;
- ▶ Usage of different sources on prevalence data is necessary to cover the age range 0-99 years;
- ▶ Dose-response estimates as RR, unadjusted or adjusted, may need to be pooled.

References

- [1] www.dynamo-hia.eu
[2] www.kiggs-studie.de
[3] www.rki.de/DE/Content/Gesundheitsmonitoring/Gesundheitsberichterstattung/GBEDownloadsB/Geda2010/geda2010_tab.html



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