Impact of the COVID-19 pandemic on oncological care in Germany: Rapid review

Leibniz-Institut für Präventionsforschung und Epidemiologie – BIPS, Gebäude Achterstraße

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Team of 12:
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BIPS: H. Zeeb, L. Christianson, M. Kirstein, K. De Santis

Timeline: 12 months from call for tender to publication

Funders: RKI, no conflicts of interest

Project timeline and aim

Disruptions to oncological care reported during the COVID-19 pandemic worldwide

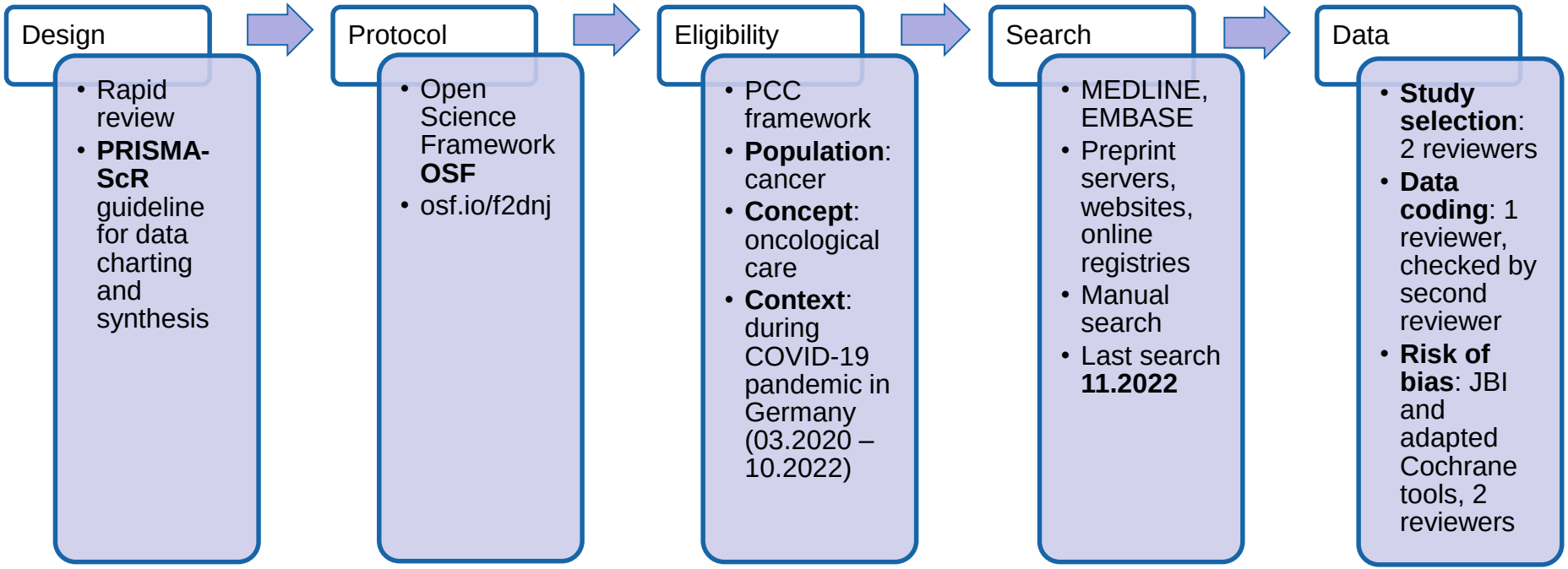
RKI call for tender to review evidence from Germany: **July 2022**

Tender granted to BIPS: **September 2022**

Project aim: To investigate the impact of the COVID-19 pandemic on oncological care in Germany using a rapid review

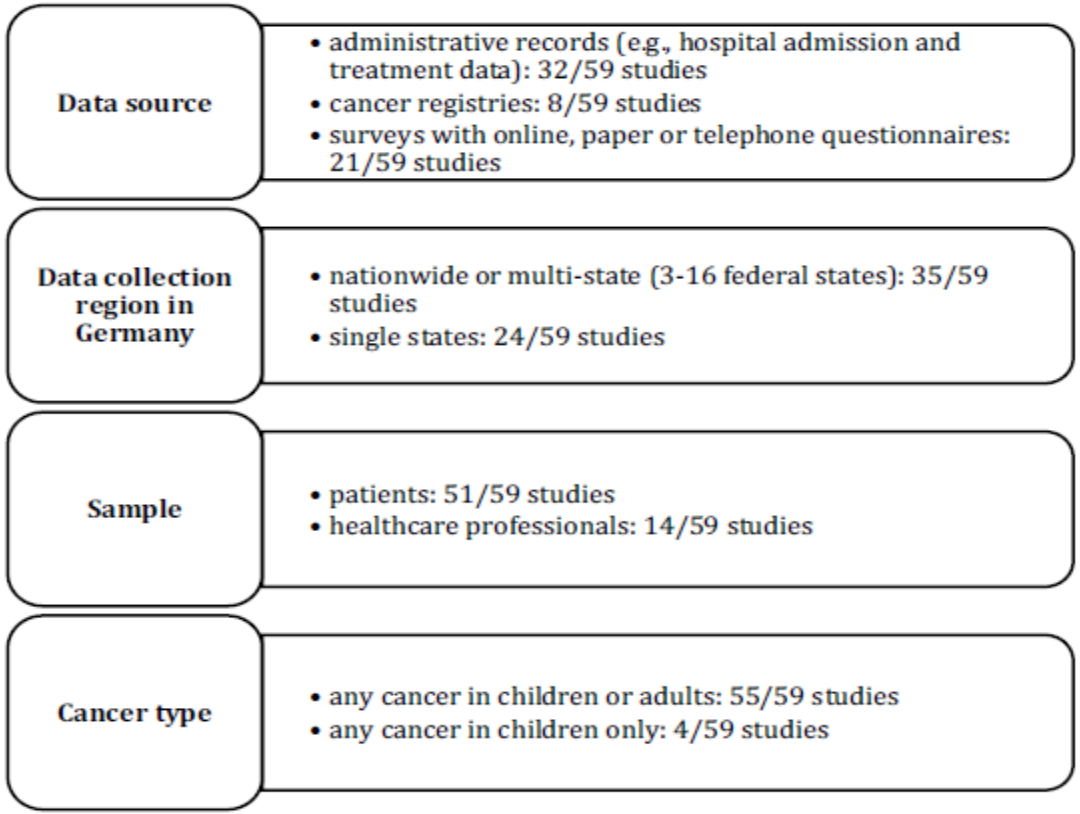
Publication: **July 2023** (De Santis K et al. J Cancer Research & Clin Oncology. doi: 10.1007/s00432-023-05063-9)

Rapid review methods

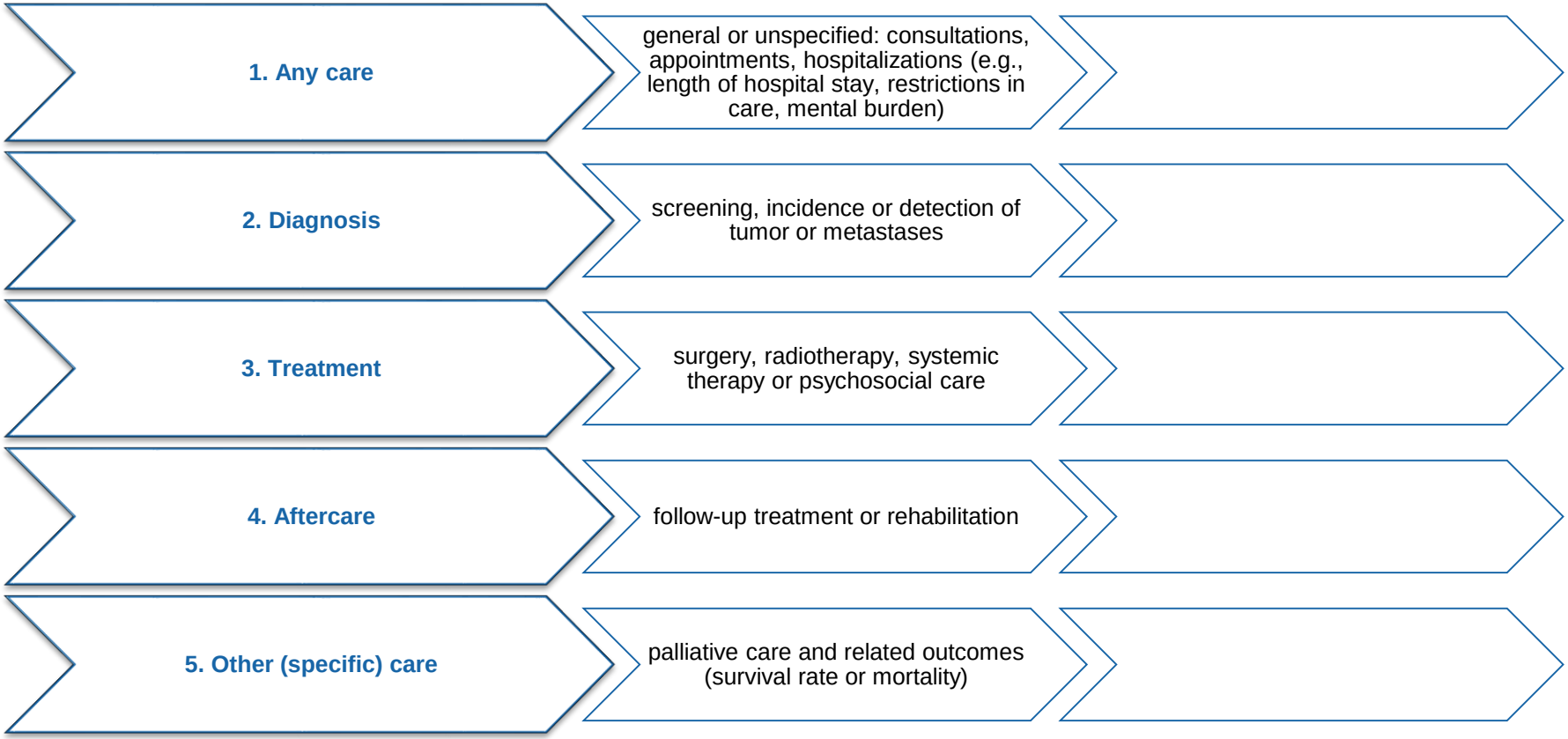


Study characteristics n=59

- Screened: ca. 7000 records
- Included: **77 records**
  - 59 studies with peer-review
  - 18 reports
- 59 studies: published in 2020-2022



Outcomes: 5 aspects of oncological care



Outcomes: narrative data coding and synthesis

1.

Table S9. Oncological care during the COVID-19 pandemic: Administrative data (n = 32 studies)

Author, year	Data source and region	Pandemic period	Pre-pandemic	Cancer type	Care provision	Care aspects	Care during vs. pre-pandemic	Confounding factors	Risk of bias
Hospital, clinical practice, disease database data									
Balakirski 2022 [1]	Helios group	2020-2021	2019	skin	inpatient	diagnosis, treatment	↔ or ↓ detection (more metastases) ↔ surgery	pandemic stage	0.75
Bollmann 2021 [2]	Helios group	2020	2019	any	any	any, other	↓ any (length of stay, admissions: ↓ inpatient, ↑ outpatient) ↓ other (↑ in-hospital mortality without COVID)	pandemic stage, care provision	0.58
Reichardt 2020 [3]	Helios group	2020	2019	any	any	any	↓ any (all admissions) ↔ any (admissions by cancer type)	pandemic stage, cancer type / stage, sociodemographics, region	0.50

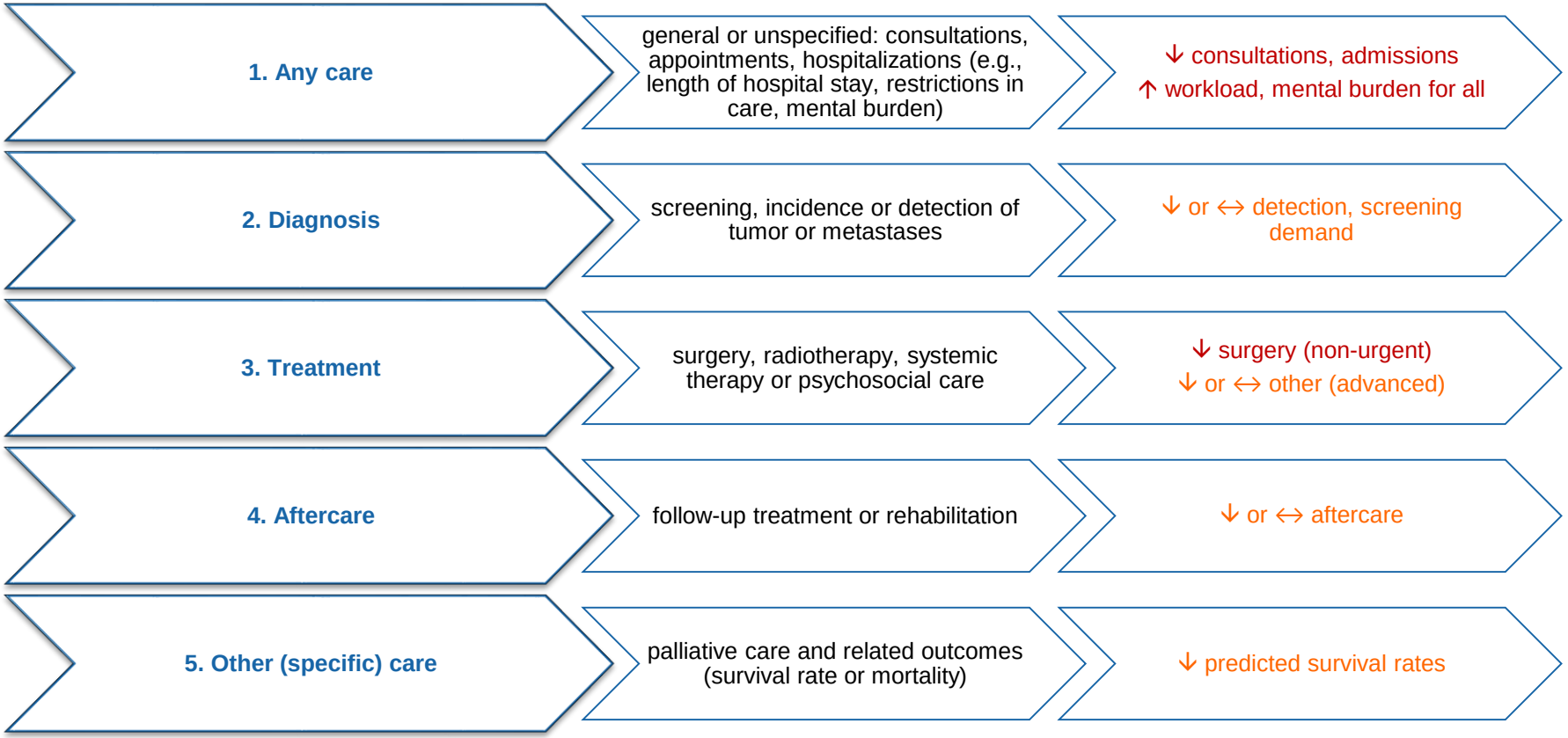
2.

3. Any change in care: statistically significant or trend based on absolute values

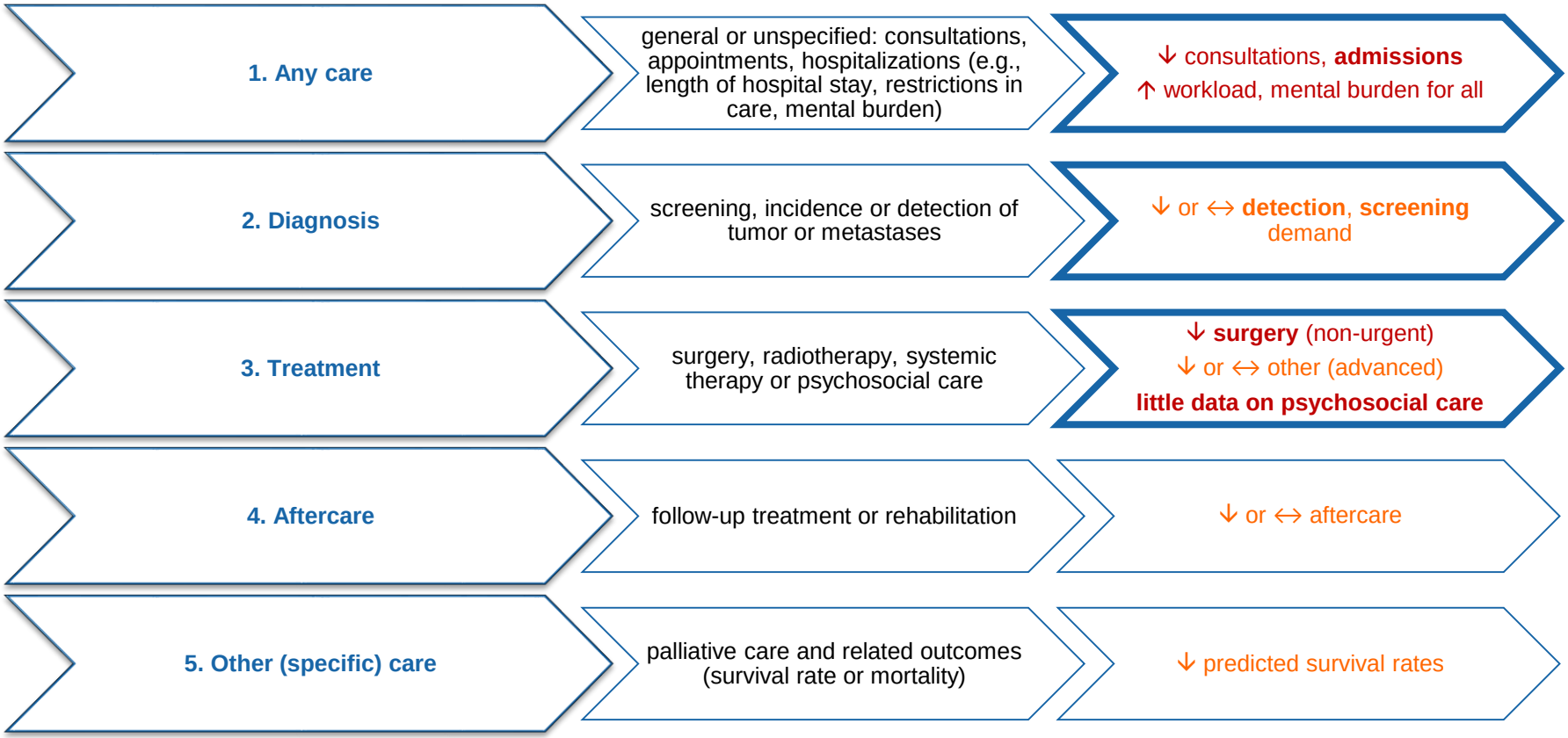
4.

5.

Outcomes: narrative synthesis

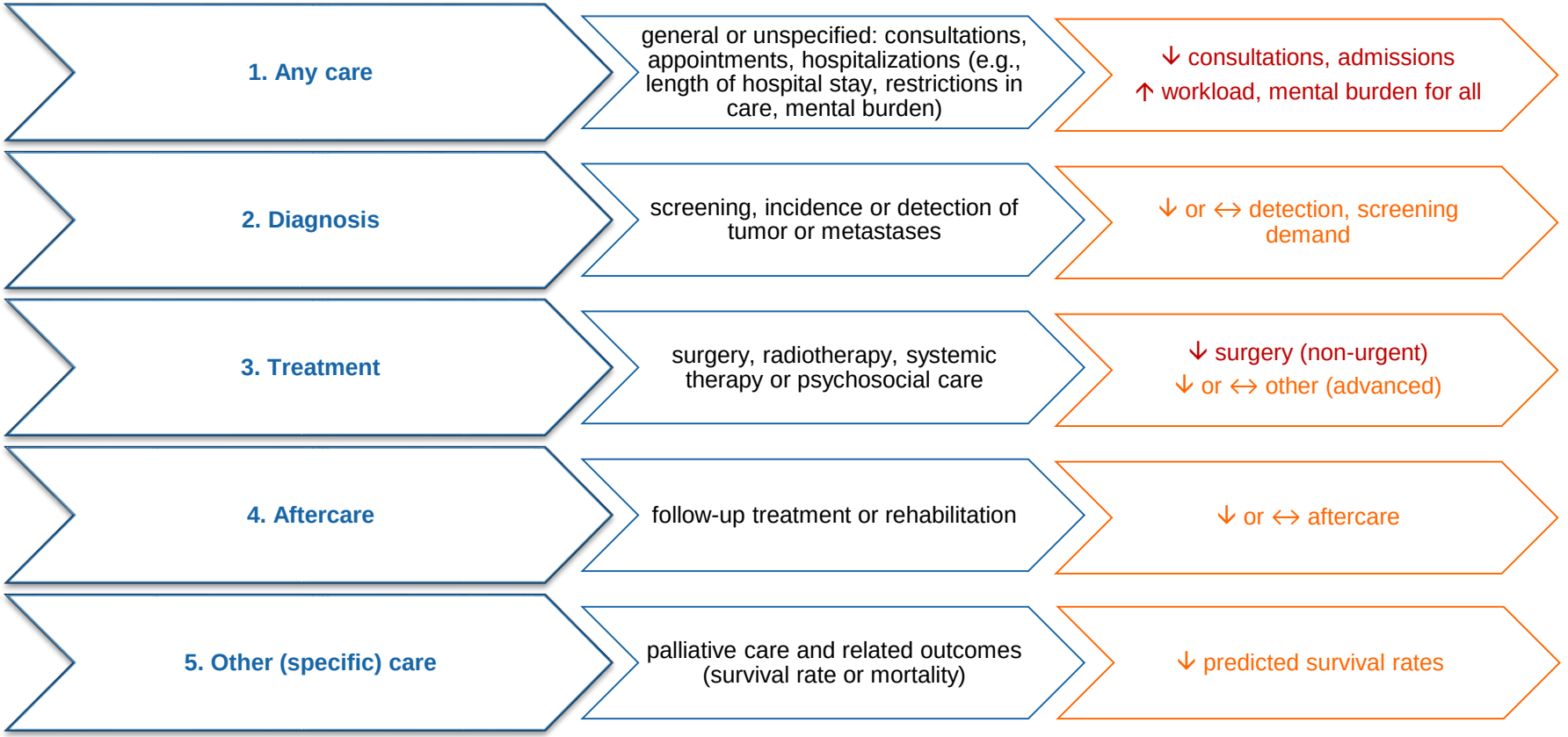


Outcomes: evidence volume (study focus)

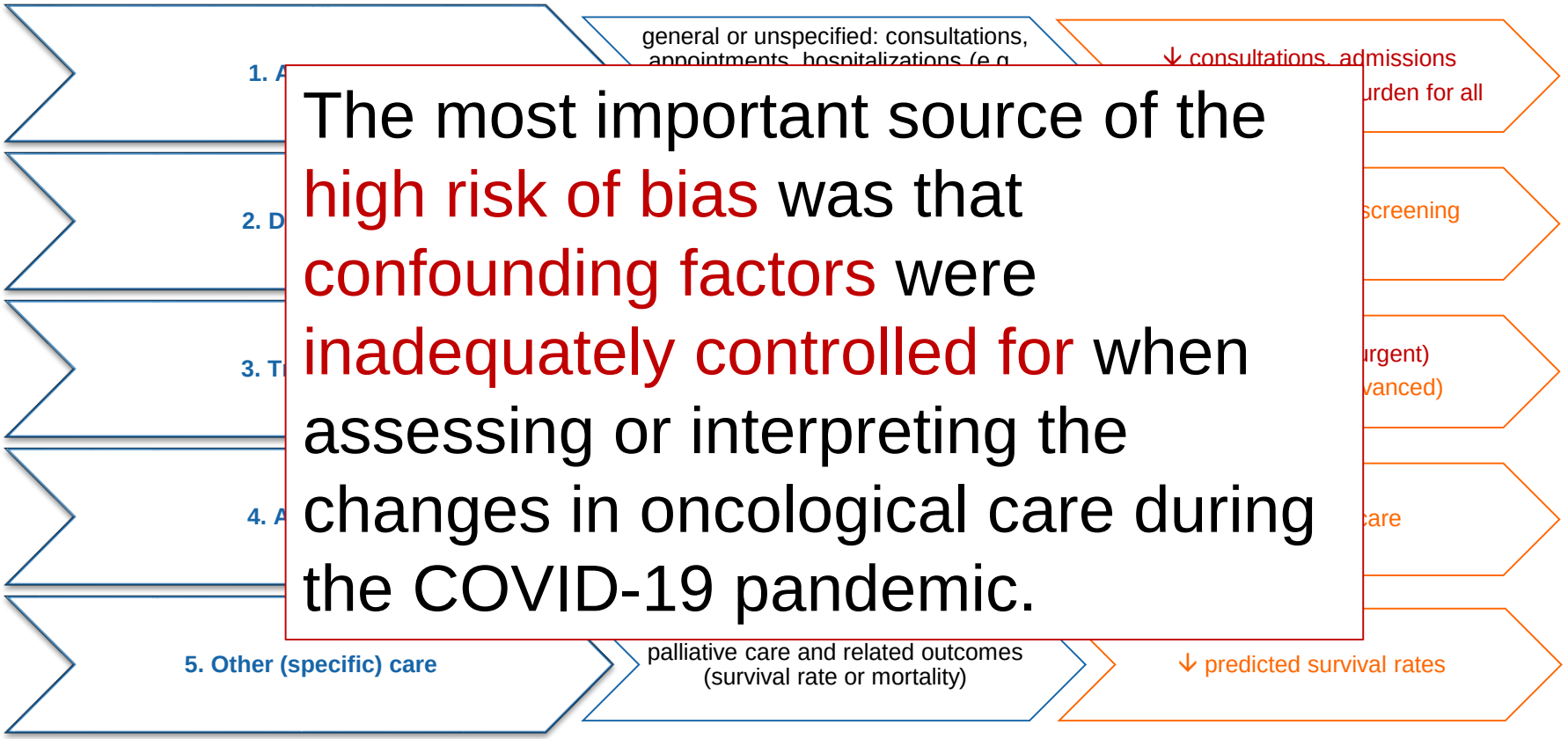


Outcomes: risk of bias

On average: moderate

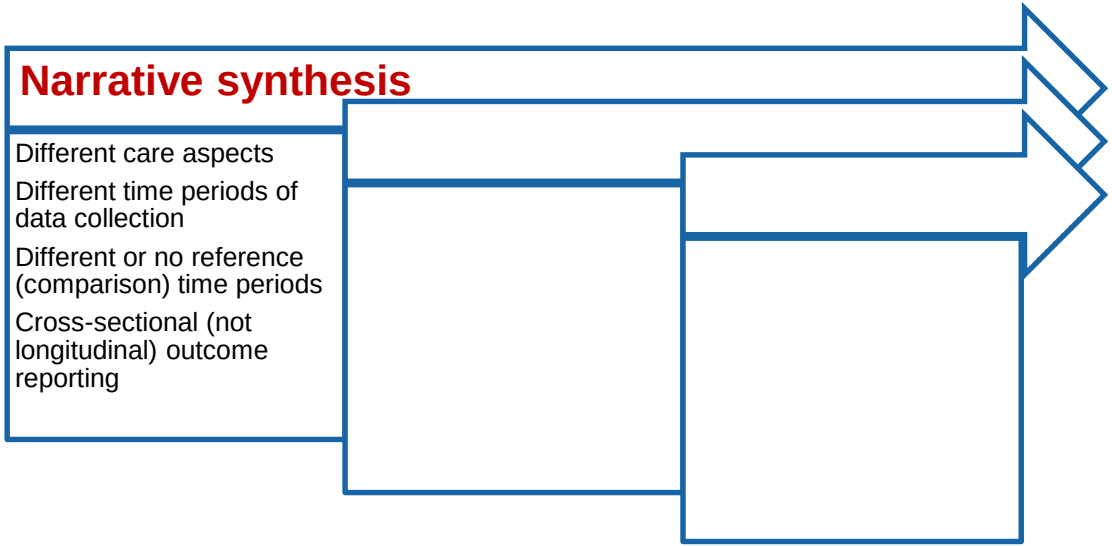


Outcomes: risk of bias



The most important source of the high risk of bias was that confounding factors were inadequately controlled for when assessing or interpreting the changes in oncological care during the COVID-19 pandemic.

Limitation: 1) No effect sizes or meta-analysis



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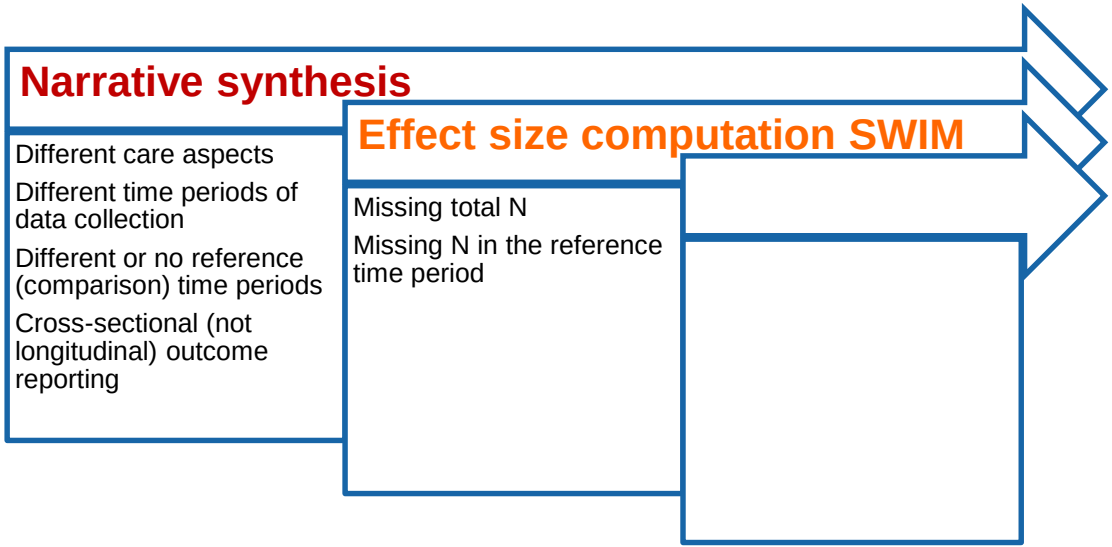

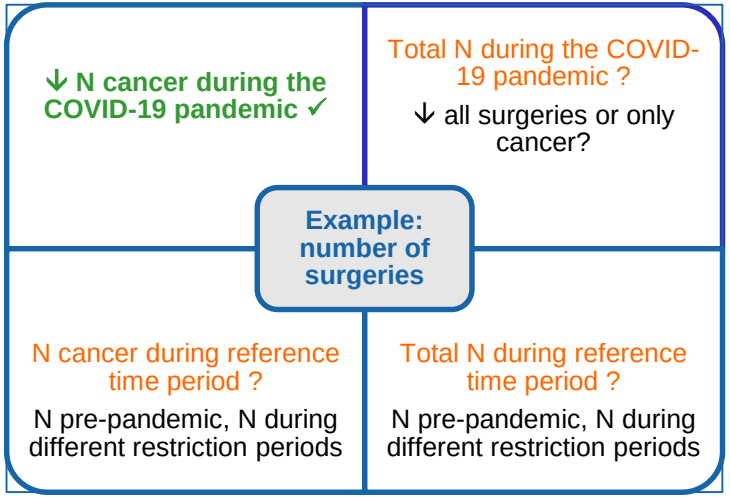

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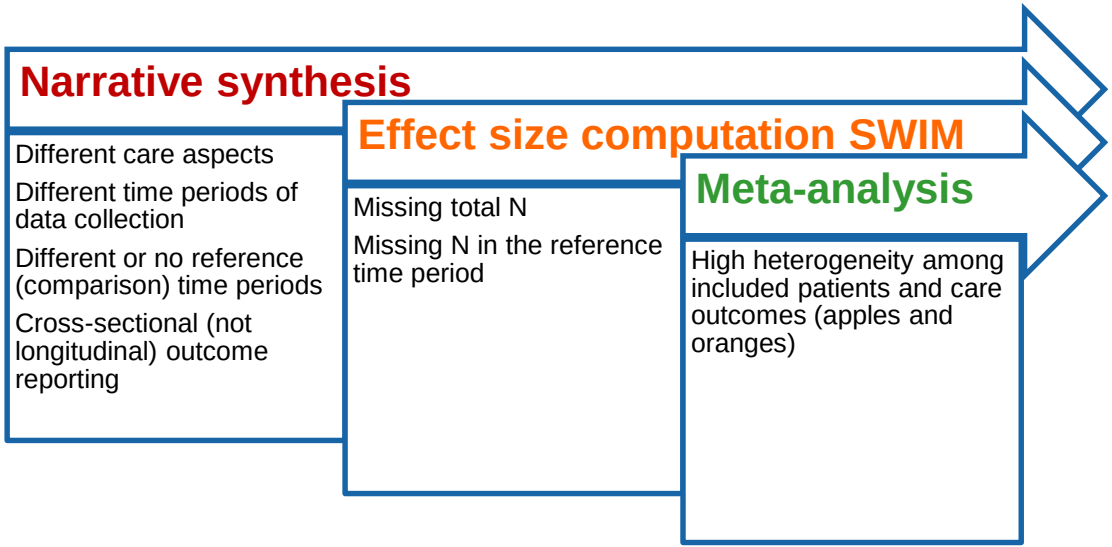

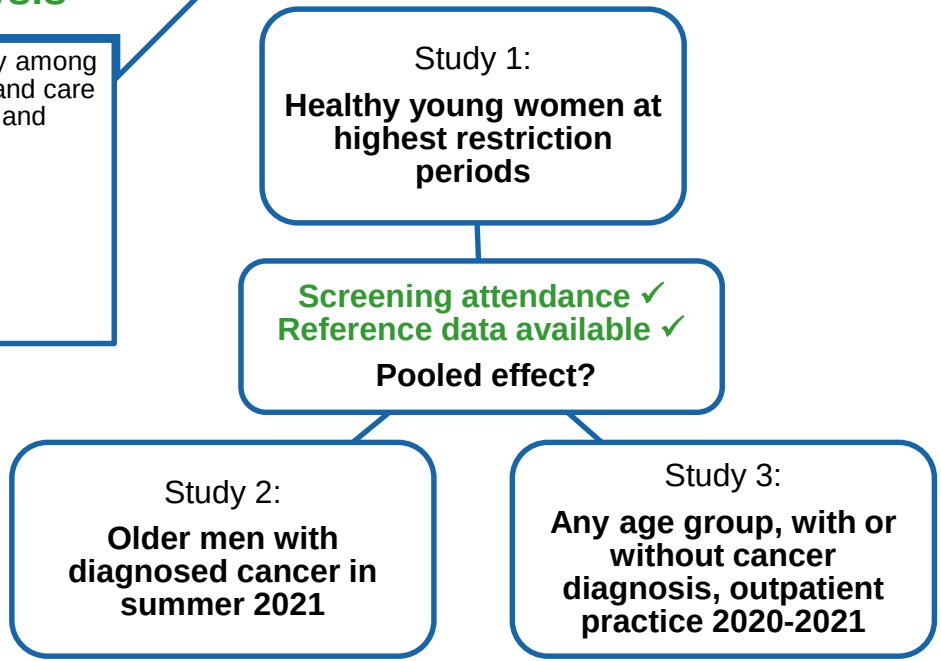

Limitation: 2) Publication bias

- No studies on **improvements** in oncological care despite changes in healthcare system in Germany unrelated to COVID-19
  - Changes in screening programs aiming at prevention and to improve early detection
  - Reorganisation of medical care: centralisation of medical services to large medical centers

- Focus on disruptions
  - Less patients = more time to write academic papers?
  - Political discourse?
  - Inflated disruptions if the same data sources used in multiple studies (note: studies with the same data source counted only once)
  - Some data sources may be more prone to bias (e.g., hospital records)

Strength: 1) Identified factors potentially associated with disruptions in care

Type	Factor	Example of how the factor could be potentially associated with disruptions in oncological care
Pandemic-related factors	Pandemic stage (restrictions)	Reduced patient volume due to restrictions on public life (e.g., physical distancing, suspension of hospital visits) in Germany
	Pandemic development (COVID-19 case numbers)	Reduced patient volume related to pandemic development (i.e., during pandemic waves with high COVID-19 case numbers)
	Pandemic-related reorganization of care	Reduced patient volume due to temporary reorganization of care during pandemic waves (e.g., relocation of care away from hospitals to outpatient clinics, changes in resource allocation, prioritization of COVID-19 patients, staff shortages due to quarantine)
Other (non-pandemic) factors	Patient characteristics	Care provision and utilization depending on patient sociodemographic and clinical characteristics (e.g., delayed care provision due to an overall clinical status that does not require emergency or urgent treatment)
	Cancer details	Care provision and utilization depending on cancer type, stage, symptoms, tumor size and location (e.g., possibility to postpone non-urgent surgery depending on cancer stage)
	Care setting	Care provision and utilization depending on setting location (e.g. reduced patient volume at smaller clinical facilities and in smaller cities) and provision (e.g., reduced patient volume due to care relocation from in- to outpatient care or centralization from multiple facilities to single hospitals)
	Care details	Care provision and utilization depending on care aspect (e.g., surgery or other treatment, aftercare, or psychosocial care)

- Need to be reported in primary studies
- Could be considered in statistical analysis

Strength: 2) Identified evidence gaps

Type	Evidence gap	Example of a topic for future research
Patient health outcomes	Long-term effects of disruptions in care	Effects of delayed screening or surgery on health outcomes
	Patient education	Importance of screening and consultations for health outcomes
	Wellbeing of patients	Importance of psychosocial care and aftercare for health outcomes
Pandemic management	Adaptation of organizational processes	Measures required to improve the organizational efficiency and patient management during pandemic conditions
	Evidence-based prioritization in medicine	Justification for delaying oncological care due to emergency in another clinical field
	Wellbeing of healthcare professionals	Measures required to reduce workload and mental burden during pandemic conditions

Summary

- Disruptions in oncological care were reported during the COVID-19 pandemic in Germany

- Unclear if disruptions were due to COVID-19 pandemic alone
  - Various factors (pandemic-related and patient and care characteristics) need to be reported and controlled for in statistical analyses

- Advice for future primary studies
  - Adequately report patient characteristics
  - Control the outcomes for reference time periods
  - More focus on patient wellbeing
    - psychosocial outcomes, aftercare
  - More focus on effective pandemic management
    - What worked well in oncological care during the pandemic

Thank you!

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REVIEW

Check for updates

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