



ifis

Institut für Informationssysteme
Technische Universität Braunschweig



FACHINFORMATIONSDIENST
PHARMAZIE
TU Braunschweig



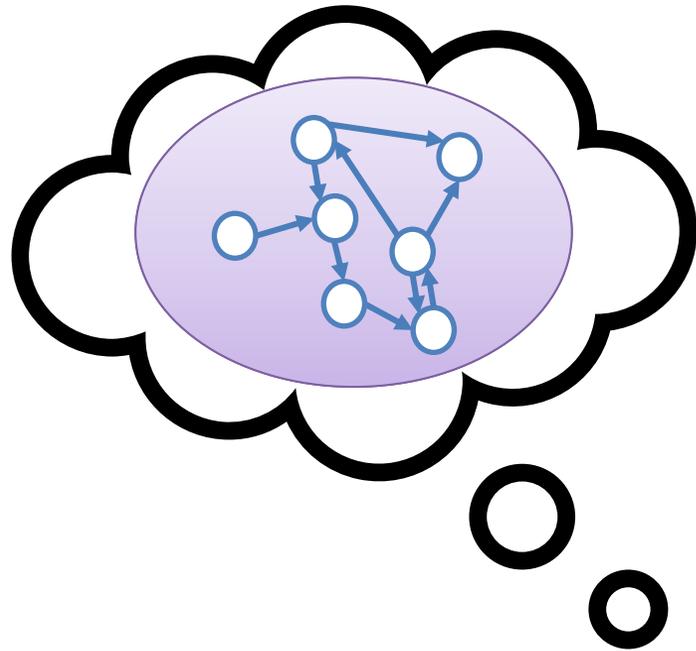
Narrativer Informationszugriff Interdisziplinär

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TU Braunschweig, Germany



Motivation

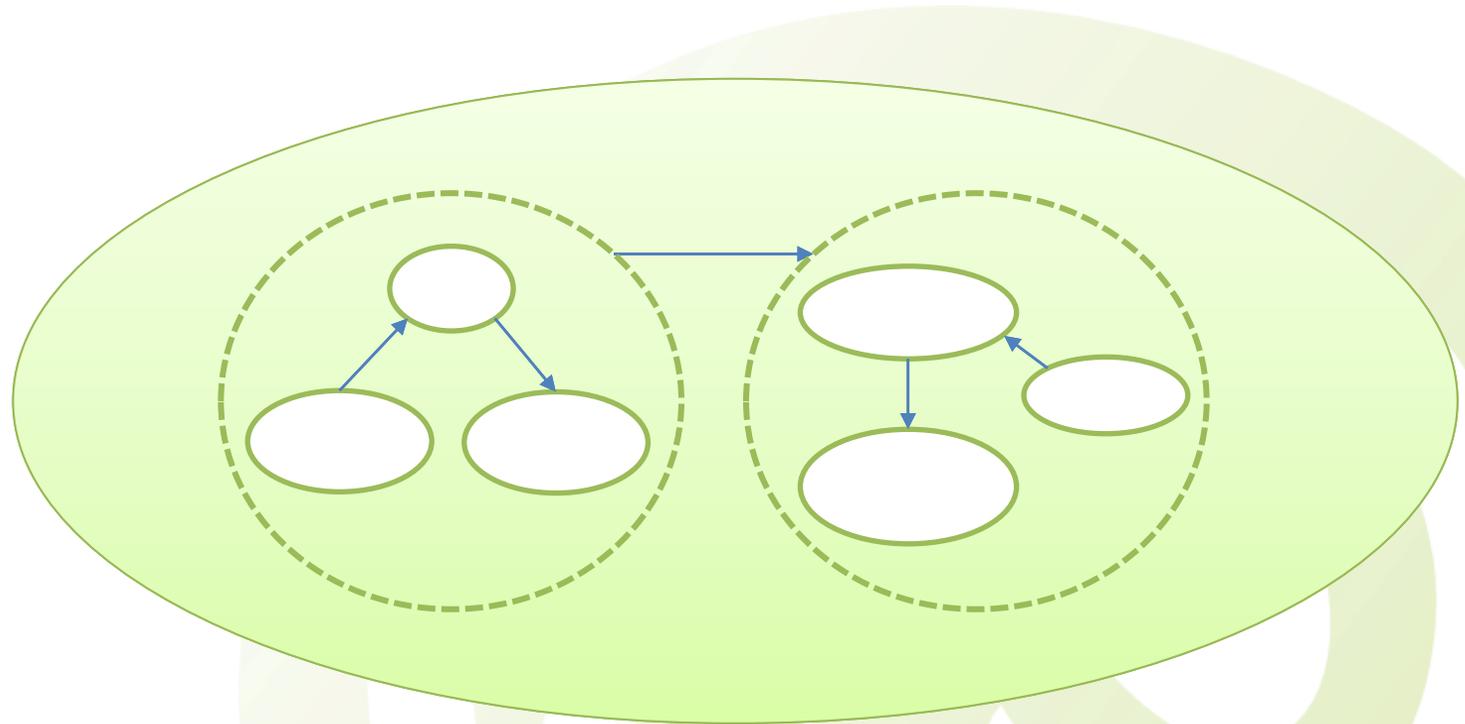
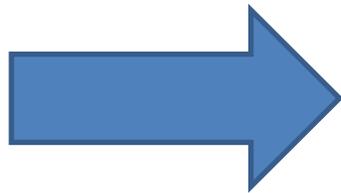
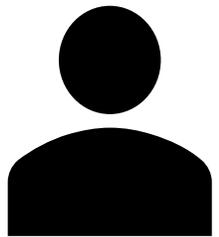


Wussten Sie schon?



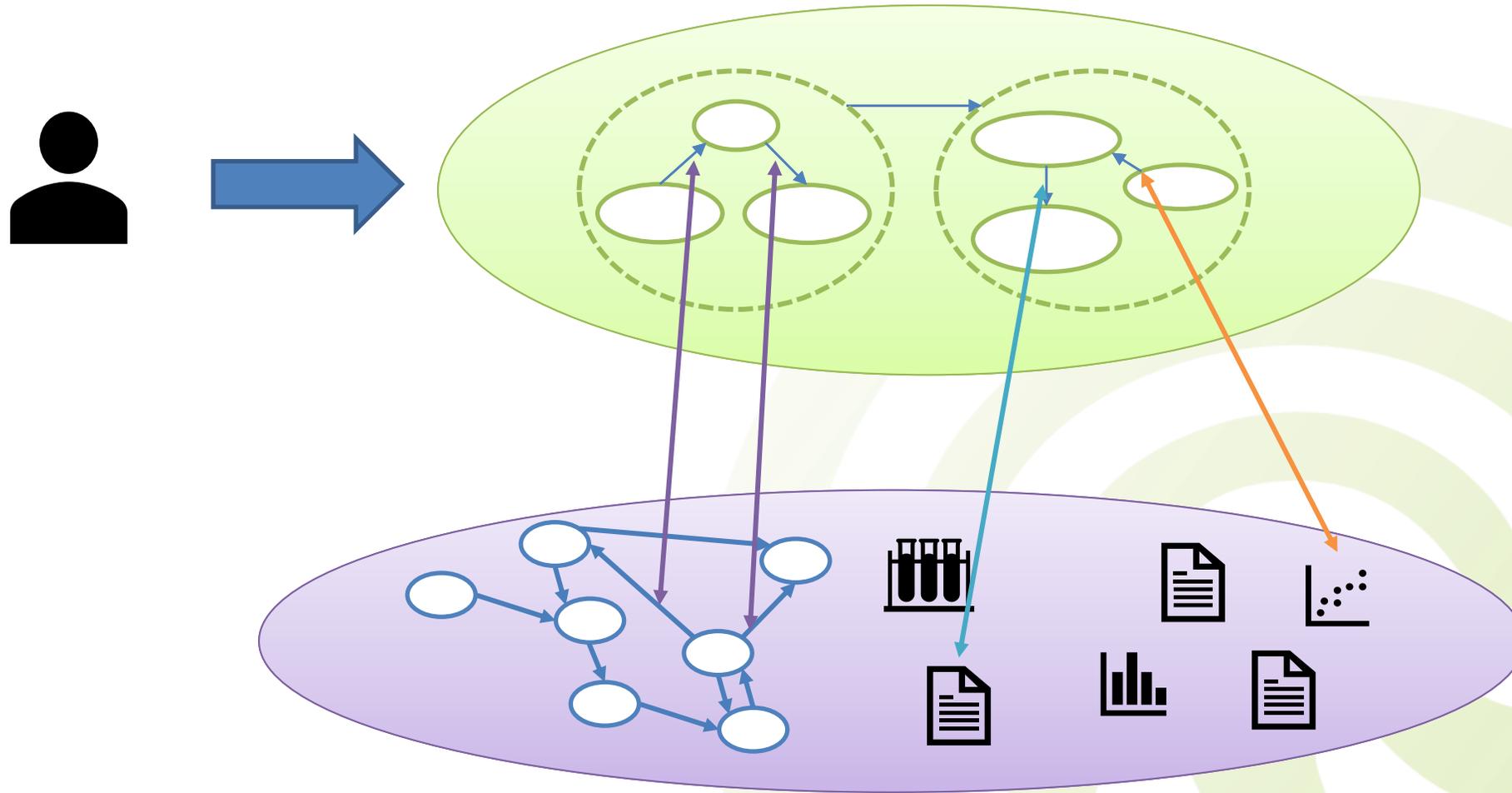


Narrativer Informationszugriff





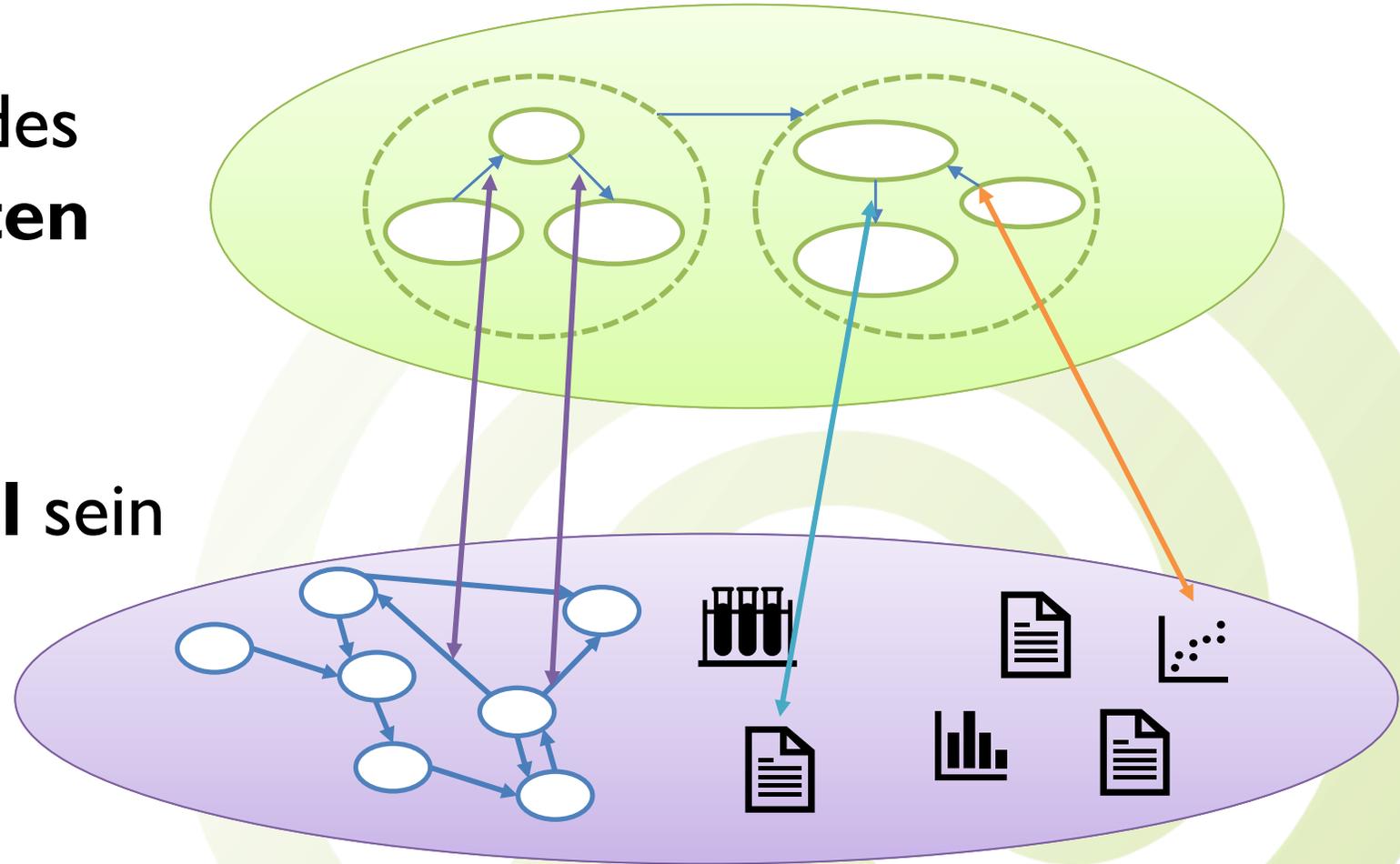
Narrativer Informationszugriff





Narrativer Informationszugriff

1. Vollständige Bindung des **Narrativs** gegen **Daten**
2. Bindungen müssen **kontext-kompatibel** sein





Narrativer Service (FID Pharmazie)

Narrative Service ? Last updated 10.02.2023

Search Drug Overviews Long COVID Overview Help Impressum



metformin Browse treats Disease Browse Add Search

How to Search: ?

Example Queries

Data Source:

- PubMed [\(Help\)](#)
- LitCovid [\(Help\)](#)
- Long Covid [\(Help\)](#)
- Covid 19 Pre-Prints via ZBMED [\(Help\)](#)

Results by year:

Visualization by:

- Substitution
- MeSH-Taxonomy

Results: ?

Page: 1 of 3 Latest Publications [View Paper](#)

Search in result titles:

child

- All
- Chemical
- Disease
- Drug
- Method
- Species
- Vaccine

- 36 Documents [?Disease:= Insulin Resistance (Disease MESH:D007333 [Q](#))]
- 31 Documents [?Disease:= Diabetes Mellitus (Disease MESH:D003920 [Q](#))]
- 29 Documents [?Disease:= Obesity (Disease MESH:D009765 [Q](#))]
- 29 Documents [?Disease:= Diabetes Mellitus, Type 2 (Disease MESH:D003924 [Q](#))]
- 10 Documents [?Disease:= Weight Loss (Disease MESH:D015431 [Q](#))]
- 7 Documents [?Disease:= Polycystic Ovary Syndrome (Disease MESH:D011085 [Q](#))]

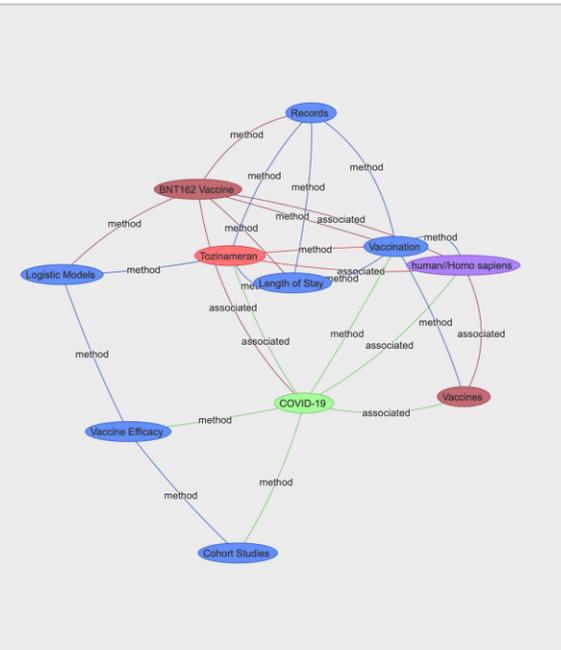
BNT162b2 COVID-19 vaccination uptake, safety, effectiveness and waning in children and young people aged 12-17 years in Scotland.

Rudan, I | Millington, T | Antal, K | Grange, Z | Fenton, L | Sullivan, C | Buelo, A | Wood, R | Woolford, L | Swann, O | Murray, J | Cullen, L | Moore, E | Halder, F | Almaghrabi, F | McMenamin, J | Agrawal, U | Shah, S | Kerr, S | Simpson, C | Kattikreddi, S | Ritchie, S | Robertson, C | Sheikh, S

The Lancet regional health. Europe, Vol. 23 No. (Dec 2022)

12/2022

Background: The two-dose **BNT162b2 (Pfizer-BioNTech) vaccine** has demonstrated high efficacy against **COVID-19** disease in clinical trials of **children** and young **people** (CYP). Consequently, we investigated the uptake, safety, effectiveness and waning of the protective effect of the **BNT162b2** against symptomatic **COVID-19** in CYP aged 12-17 years in Scotland. Methods: The analysis of the **vaccine** uptake was based on information from the Turas **Vaccination** Management Tool, inclusive of Mar 1, 2022. **Vaccine** safety was evaluated using national data on hospital admissions and General Practice (GP) consultations, through a self-controlled case series (SCCS) design, investigating 17 health outcomes of interest. **Vaccine effectiveness (VE)** against symptomatic **COVID-19** disease for Delta and Omicron variants was estimated using a test-negative design (TND) and S-gene status in a prospective **cohort study** using the Scotland-wide Early Pandemic Evaluation and Enhanced Surveillance of **COVID-19 (EAVE II)** surveillance platform. The waning of the **VE** following each dose of **BNT162b2** was assessed using a matching process followed by conditional **logistic regression**. Findings: Between Aug 6, 2021 and Mar 1, 2022, 75.9% of the 112,609 CYP aged 16-17 years received the first and 49.0% the second **COVID-19 vaccine** dose. Among 237,681 CYP aged 12-15 years, the uptake was 64.5% and 37.2%, respectively. For 12-17-year-olds, **BNT162b2** showed an excellent safety **record**, with no increase in **hospital stays** following **vaccination** for any of the 17 investigated health outcomes. In the 16-17-year-old group, **VE** against symptomatic **COVID-19** during the Delta period was 64.2% (95% **confidence interval** [CI] 59.2-68.5) at 2-5 weeks after the first dose and 95.6% (77.0-99.1) at 2-5 weeks after the second dose. The respective **VEs** against symptomatic **COVID-19** in the **Omicron** period were 22.8% (95% CI -6.4-44.0) and 65.5% (95% CI 56.0-73.0). In **children** aged 12-15 years, **VE** against symptomatic **COVID-19** during the Delta period was 65.4% (95% CI 61.5-68.8) at 2-5 weeks after the first dose, with no observed cases at 2-5 weeks after the second dose. The corresponding **VE** against symptomatic **COVID-19** during the **Omicron** period were 30.2% (95% CI 18.4-40.3) and 81.2% (95% CI 77.7-84.2). The waning of the protective effect against the symptomatic disease began after five weeks post-first and post-second dose. Interpretation: During the study period, uptake of **BNT162b2** in Scotland has covered more than two-thirds of CYP aged 12-17 years with the first dose and about 40% with the second dose. We found no increased likelihood of admission to hospital with a range of health outcomes in the period after **vaccination**. **Vaccination** with both doses was associated with a substantial reduction in the risk of **COVID-19** symptomatic disease during both the Delta and **Omicron** periods, but this protection began to wane after five weeks. Funding: UK Research and Innovation (Medical Research Council); Research and Innovation Industrial Strategy Challenge Fund; Chief Scientist's Office of the Scottish Government; Health Data Research UK; National Core Studies - Data and Connectivity.



www.narrative.pubpharm.de



**Wie ist die Übertragbarkeit
auf die Politikwissenschaft?**



Gleicher Workflow wie in der Pharmazie?

- **Konzept-Vokabulare** fehlen
 - Wonach wird gesucht? Was ist **relevant**?
- **Kanonisierung** von Informationen **unklar**
 - Welche Phrasen haben die selbe Bedeutung?
- **Fazit:** Extraktion extrem **aufwendig**



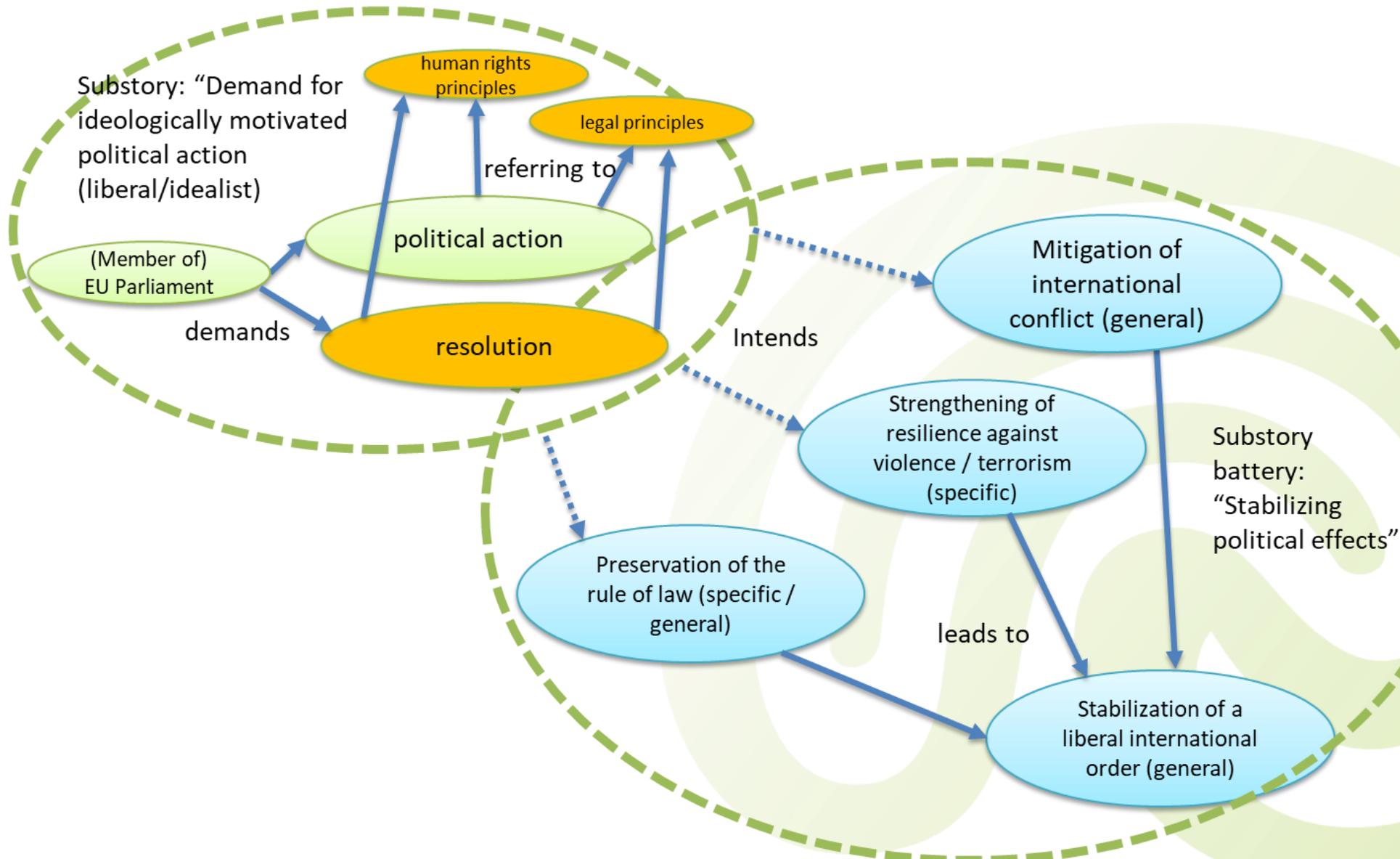


**Wie ist die Übertragbarkeit
auf die Politikwissenschaft?**



- **Anspruchsvolle** Textkorpora, historisch **wandelbare** Begriffe, **ideologische** Kontexte; **kein Fachthesaurus**
 - Primärquellen statt Fachliteratur
- Internationale Beziehungen: Institutionalismus vs. Realismus
 - Deutungsschulen/Theorien

Example Narratives in Political Sciences: europarl Ia





Fall Studie: Irak Krieg

- Analyse von Forschungsfragen zum **Irak Krieg**
 - Textkorpus: Parlamentsreden aus der Zeit des Irakkriegs 2003 – 2011 (europarl)
- Bindungen gegen die folgenden Repositorien:
 - Wikipedia (allgemeines Wissen)
 - ~~Wikidata (ontologisches Wissen)~~
 - Europarl (Europäische Reden über den Irak Krieg)



Parlamentum Europaeum





Prototyp Implementierung

Query Statement (Complete Sentence):

United States invade the Iraq

Query (Keyword Filter Expression):

(U.S.|United States|US) (Iraq|Bagdad)

Parameters:

Confidence 0.5



Wikipedia

EuroParl

Search

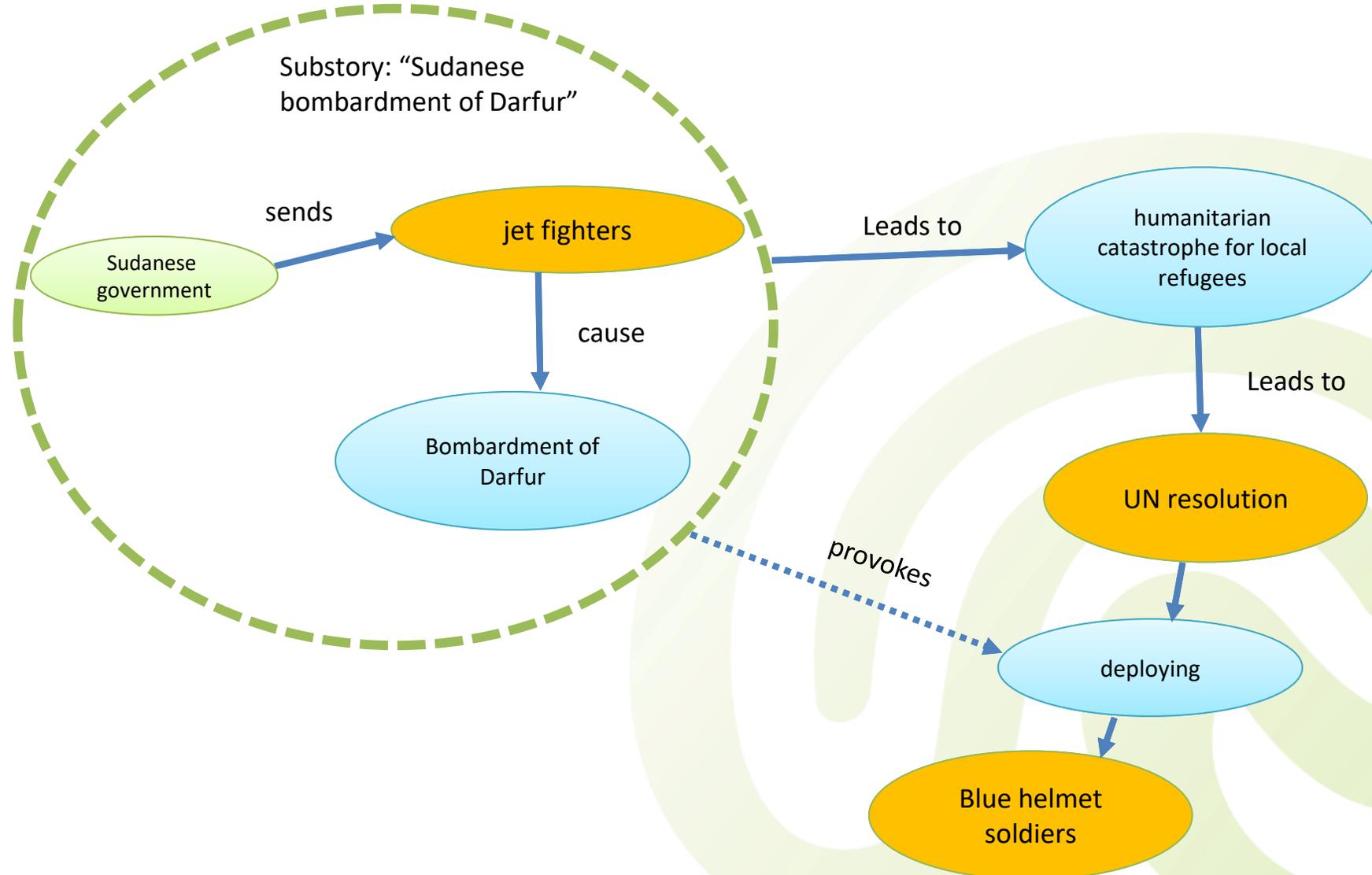
Results:

#	Conf.	Data Source	Provenance
No matching records found			





Beispielnarration





Beispiele (1/2)

- “Sudan bombarded Darfur”
 - Filter: (bombarded|bombards|attacked|attack)
- **Treffer:**
 - „A no-fly zone over Darfur could be operated from eastern Chad to block the Sudanese air force from attacking the population of Darfur, as I and other Members of this Chamber witnessed near Al Fashir in September 2004.“ (Confidence 1.0)
 - „Thousands of soldiers from the Sudanese army have been deployed once again in the region, and the aerial bombardments have resumed.“ (Confidence 0.91)



Beispiele (2/2)

- European Union should act to secure peace
 - Filter: (European Union|EU)
- **Treffer:**
 - „Latvia wholeheartedly advocates the assumption of greater responsibility by the EU in ensuring worldwide peace and security, and believes that the new European security strategy is a step in the right direction.“ (Confidence 1.0)
 - „After this motion has been approved, the European Union shall propose, through its representatives on the Security Council, that a UN military force be sent to keep the peace between the Israeli and Palestinian states.“ (Confidence 0.96)



Beispiele (2/2)

- European Union should act to secure peace
 - Filter: (European Union|EU)
- **Treffer:**
 - „Wherever terrorism lurks, wherever it rears its head, whatever form it takes, the European Union must not shrink from fighting it.“ (Confidence 0.54)



Fazit

- Mehrwert der narrativen Suchlösung gegenüber einer klassischen Keyword-basierten Suche: Man findet **semantische Muster**.
- **Desiderat:** Sätze mit **höheren Abstraktionsniveaus** und komplexeren "Substories" suchbar machen
- Ziel: Vorbereitende **Diskurs- und Deutungsmusteranalysen** für die praktische Forschung

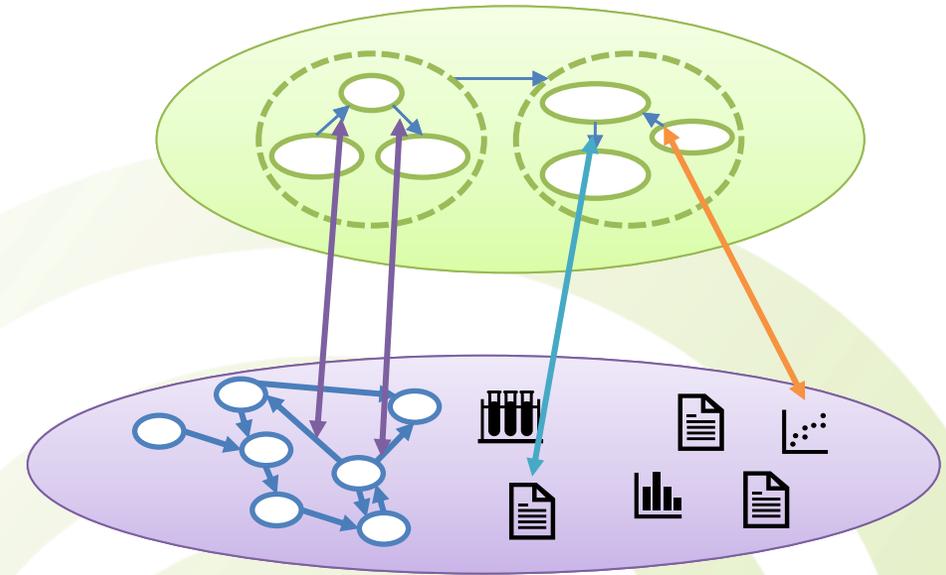
Fazit





Fazit

- Der **Narrative Informationszugriff** ermöglicht **präzise** Suchen und **strukturierte** Literaturübersichten.
 - Anfragen werden **vollständig** und in **kompatiblen Kontexten** beantwortet
 - **Jedoch** sind Extraktionsworkflows oder und semantisch Retrievalmethoden **aufwendig**.





Möchten Sie mehr wissen...?

- **Narrativer Informationszugriff in der Pharmazie:**

- www.narrative.pubpharm.de
- Journal Artikel (OA): <https://link.springer.com/article/10.1007/s00799-023-00356-3>
- <https://doi.org/10.1145/3529372.3530928>
 - Präsentation: <https://youtu.be/W7V4QUyzmYI>
- https://doi.org/10.1007/978-3-030-91669-5_7
 - Präsentation: <https://youtu.be/9NIXTXPEqfU>

- **Extraktionstools, Daten zu Fallstudien und weitere Details:**

- Code & Daten:
 - <https://github.com/HermannKroll/KGExtractionToolbox>
- <https://doi.org/10.1109/JCDL52503.2021.00014>
 - Präsentation: <https://youtu.be/G6ndS0GZBeg>
- <https://doi.org/10.1145/3529372.3530924>
 - Präsentation: <https://youtu.be/yGIF2MIxB9I>



Vielen Dank für Ihre Aufmerksamkeit!



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