

Demonstrating Narrative Pattern Discovery from Biomedical Literature

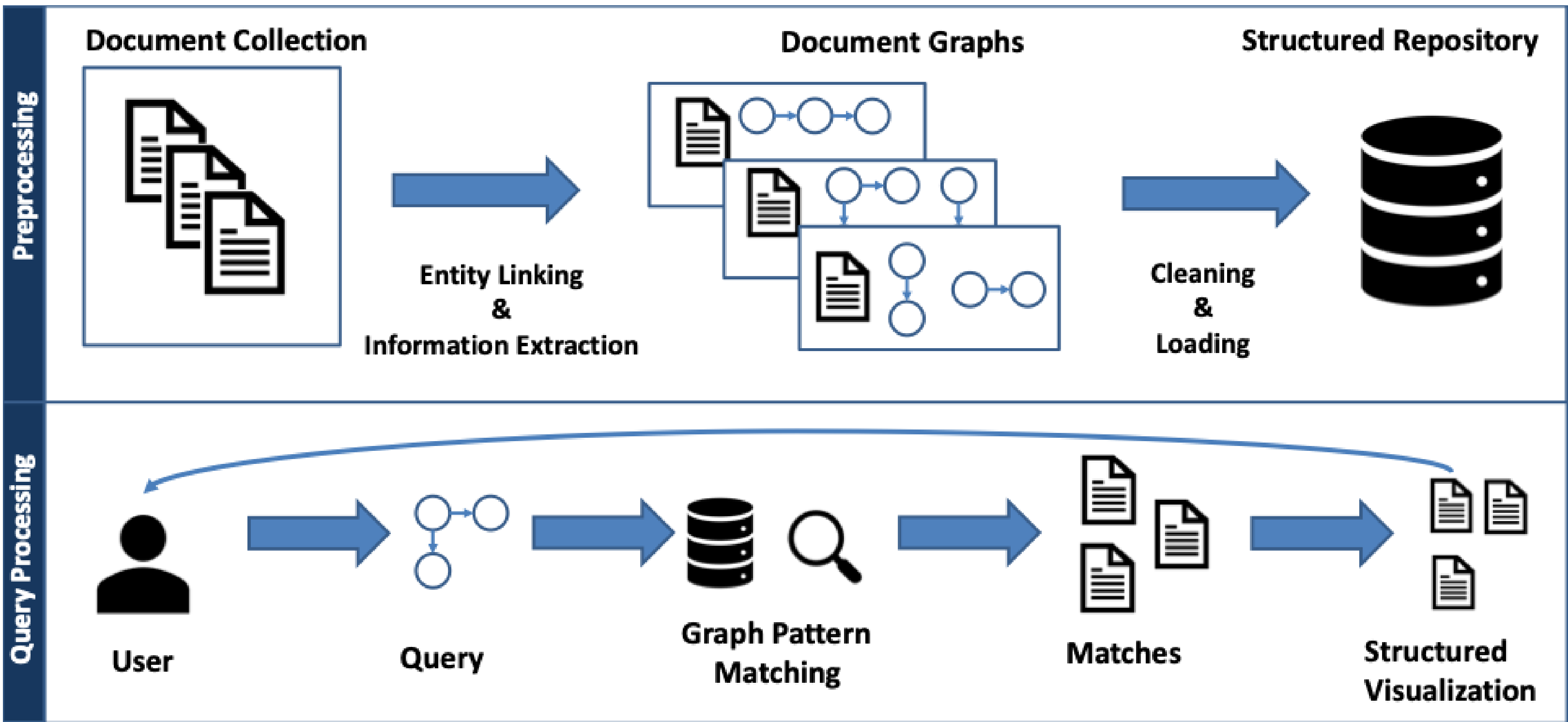
Hermann Kroll, Pascal Sackhoff, Bill M. Thang, Christin K. Kreutz and Wolf-Tilo Balke

Graph-based Discovery System



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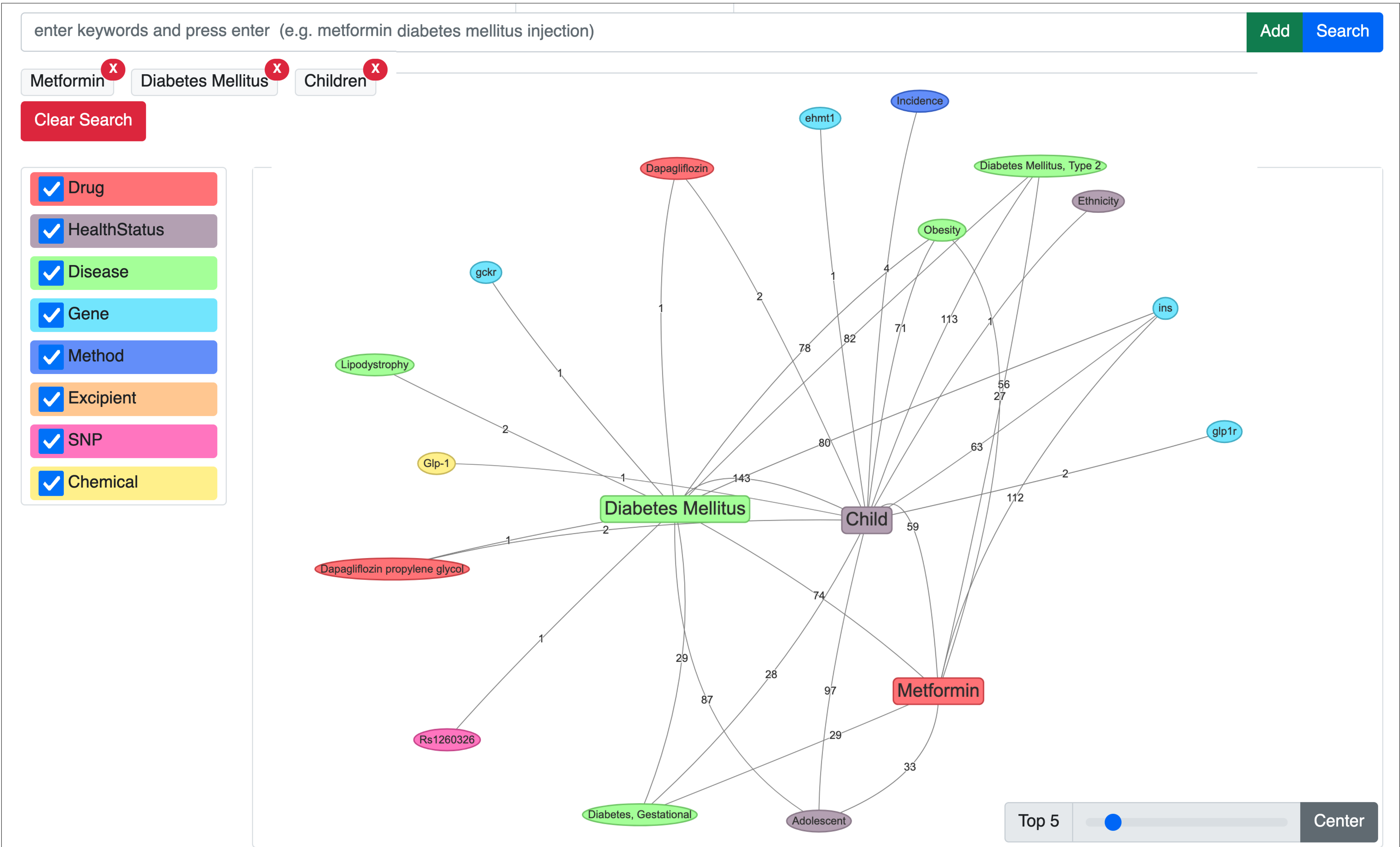
Narrative Pattern Mining

Entity-based Search: Biomedical literature is entity-centric

Network Visualization: Highlights relevant interactions between entities

Provenance: Connects any shown interaction with literature

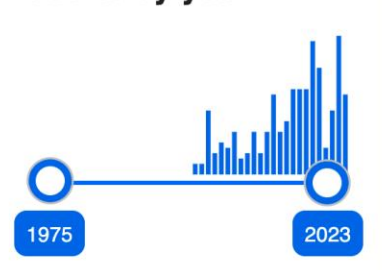
Entity-typing (colors): Allows to quickly focus on relevant entities



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Risk Factors for Progression to Type 2 Diabetes in a Pediatric Prediabetes Clinic Population.

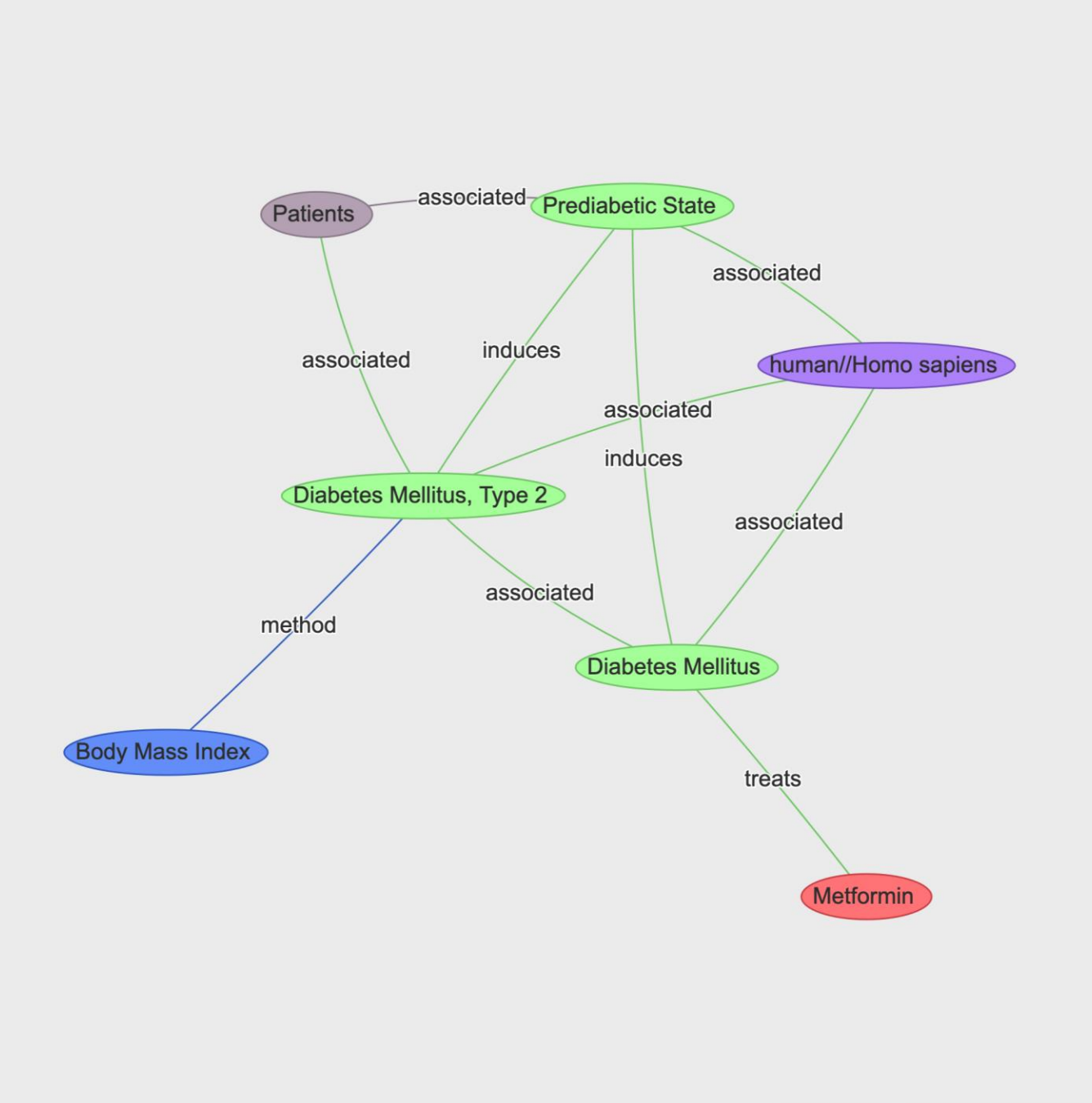
Belsky, N I Tamaroff, J I Shoemaker, A

Journal of the Endocrine Society, Vol. 7 No. 11 (Oct 2023)

10/2023

Background: Pediatric **type 2 diabetes (T2D)** is increasing in **prevalence**, yet it is unclear what definition of pediatric **prediabetes** predicts progression to **T2D**. Strategies are needed to better identify at risk individuals who could benefit from early intervention. Methods: Retrospective chart review of a pediatric **prediabetes** clinic over 7 years. Inclusion criteria include **hemoglobin A1c** (HbA1C) **and** **≥1** glucose from **oral glucose tolerance test**. Exclusion criteria include **type 1 diabetes**, **maturity onset diabetes** of the young, or **T2D** on initial visit. Results: A total of 552 **patients** were included, 6.5% (n = 36) progressed to **T2D** over 2.4 ± 1.5 years. At initial visit, **T2D** progressors had a higher **body mass index** (38.6 ± 6.5 vs 34.2 ± 8.4 kg/m², P = .002), HbA1C (6.0 ± 0.3%, vs 5.7 ± 0.3, P < .001), 2-hour glucose (141 ± 28 vs 114 ± 29 mg/dL, P < .001), and **C-peptide** (4.8 vs 3.6 ng/mL, P = .001). Fasting glucose was not significantly different. In a multivariable model, male sex (hazard ratio [HR], 2.4; P = .012), initial visit HbA1C (HR, 1.3 per 0.1% increase; P < .001), and 2-hour glucose level (HR, 1.2 per 10 mg/dL increase; P = .014) were all predictive of **T2D** progression. **Patients** who progressed to **T2D** had an increase in **body mass index** of 4.2 kg/m² and **children** consistently taking **metformin** took longer to progress (43 ± 21 vs 26 ± 16 months; P = .016). Discussion: A total of 6.5% of **patients** with **prediabetes** developed **T2D** over a 7-year period. Initial visit laboratory values and **weight trajectory** may allow for risk stratification, whereas fasting plasma glucose is less helpful. **Weight** stabilization and **metformin therapy** could be important interventions for **diabetes** prevention in **children**.

Classifications



Network visualization showing relationships between entities: Patients, Prediabetic State, human/Homo sapiens, Diabetes Mellitus, Type 2, Diabetes Mellitus, Body Mass Index, and Metformin. Edges are labeled with terms like "associated", "induces", "method", and "treats".

Top 10 | Center | Fullscreen