

Analysing the prescribing patterns and costs of drug treatment in juvenile idiopathic arthritis in the Netherlands

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Objectives

- JIA is the most common chronic **rheumatologic disease in childhood**
- **Pharmacological treatment** is crucial to achieve control of the disease
- **Aims:**
 - Describe **different lines of treatment for JIA patients**
 - Quantify the accompanying impact on **drug costs**.

Methods

Data analysed:

- Retrospective cohort of **884 JIA patients** (0-18 years), treated in the Wilhelmina Children's Hospital (NL), between 04/2011 and 04/2019.
 - **Including:** data on the **type, frequency and duration** of medication prescribed.
- Prescribed **doses** and accompanying **cost prices** were retrieved from the Dutch Pharmacotherapeutic Compass and the Dutch paediatric formulary.

Results

- Number of different (combinations of) drugs prescribed:
 - **20** drugs (or combinations) as **first-line** treatment
 - **35** drugs (or combinations) as **second-line** treatment
- **Oral methotrexate (MTX)** was the most commonly prescribed first-line treatment (56.7% of patients, **figure 1**), compared with 39.1% in second-line (including combination therapy).
 - In **systemic JIA**, anakinra was the most common first line treatment (**figure 2**).
- On average, patients receive **2.3 lines of treatment** during an average **4.4 year follow-up** period.
- The **average annual costs/patient** range from €93 for undifferentiated JIA to €8,676 for systemic JIA.
 - Biologics represent **84.7%** of total drug costs
 - **Canakinumab** was the most expensive

Table 1. Number of patients and costs of different types of medication for JIA (IA = intra-articular, pers. = persistent)

JIA subtype	N (%)	Non-Biologic		IA		Other	Total
		DMARDs	DMARDs	Steroids	injections		
Systemic	87 (9.8%)	€ 8,546	€ 26	€ 41	€ 2	€ 61	€ 8,676
Polyarticular RF +	38 (4.3%)	€ 4,634	€ 211	€ 38	€ 13	€ 39	€ 4,934
Extended oligoarticular	84 (9.5%)	€ 2,818	€ 197	€ 13	€ 20	€ 277	€ 3,326
Enthesitis related	75 (8.5%)	€ 3,064	€ 70	€ 0	€ 5	€ 88	€ 3,226
Polyarticular RF -	167 (18.9%)	€ 2,648	€ 143	€ 10	€ 11	€ 214	€ 3,026
Oligoarticular pers. ANA +	168 (19.0%)	€ 1,384	€ 90	€ 13	€ 29	€ 1,306	€ 2,821
Psoriatic arthritis	34 (3.8%)	€ 2,295	€ 67	€ 1	€ 13	€ 62	€ 2,438
Uveitis	57 (6.4%)	€ 731	€ 129	€ 3	€ 1	€ 1,296	€ 2,159
Oligoarticular pers. ANA -	164 (18.6%)	€ 711	€ 67	€ 0	€ 21	€ 197	€ 996
Undifferentiated	10 (1.1%)	€ 0	€ 6	€ 0	€ 26	€ 61	€ 93

Results

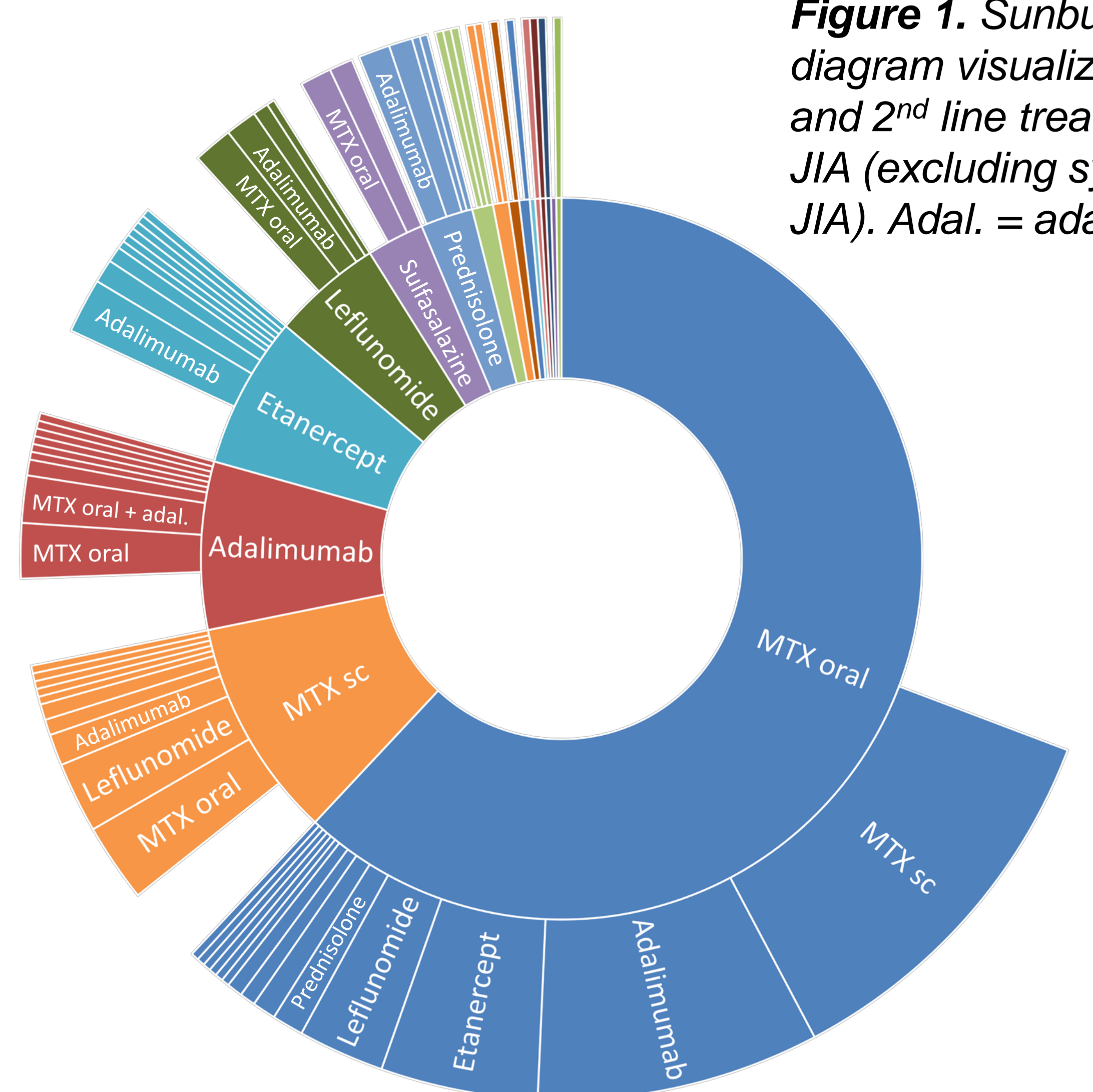


Figure 1. Sunburst diagram visualizing 1st and 2nd line treatment in JIA (excluding systemic JIA). Adal. = adalimumab

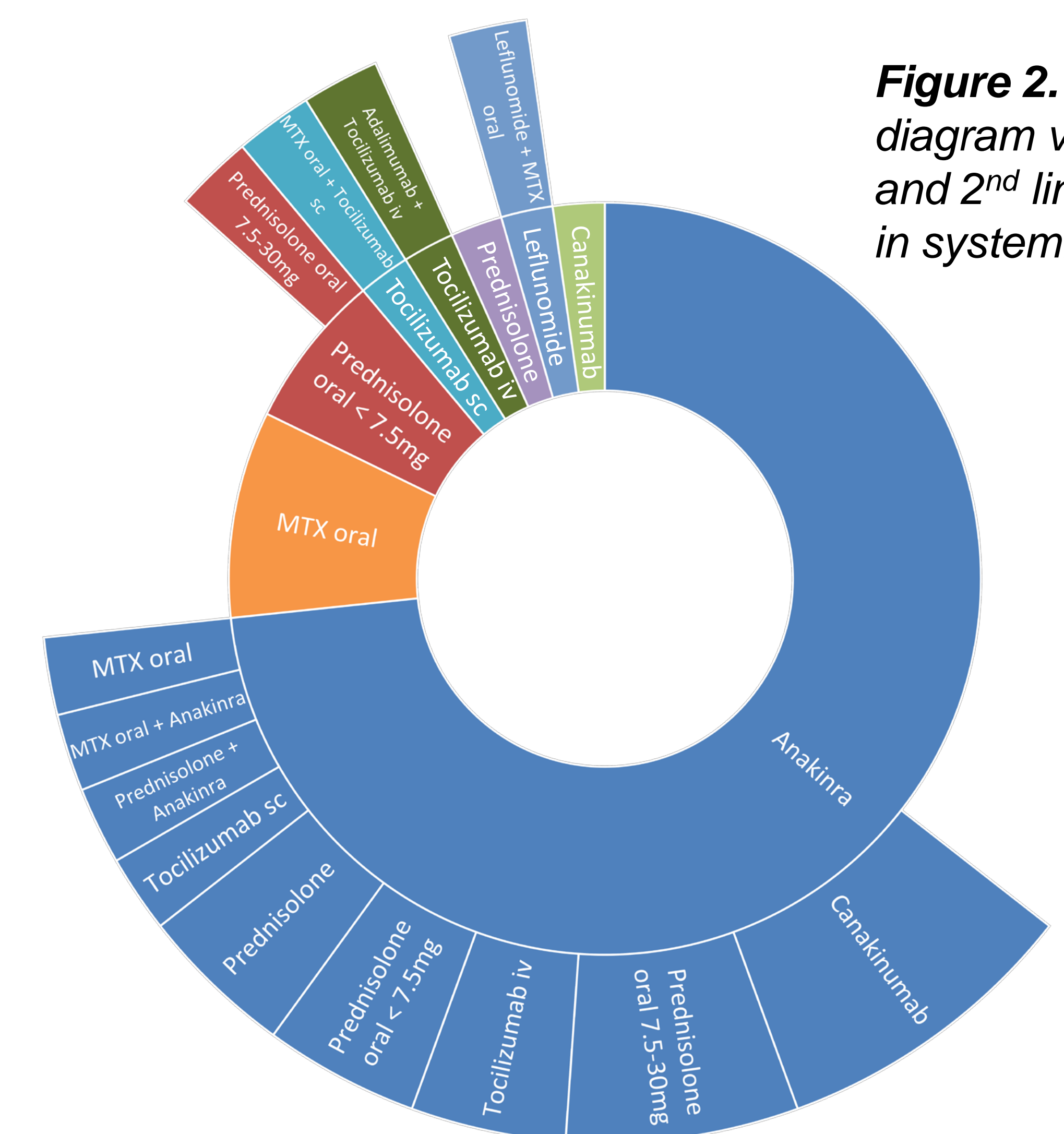


Figure 2. Sunburst diagram visualizing 1st and 2nd line treatment in systemic JIA

Conclusion and discussion

- Pharmacological treatment of JIA is **complex** and warrants an **individualized approach**.
- **Systemic JIA** represents the subgroup with the highest medication costs, attributable to the use of **biologics**, in particular canakinumab.

Questions or more information?

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