EHDEN

EUROPEAN HEALTH DATA & EVIDENCE NETWORK

Drug Utilization Study - First line treatment with conventional synthetic Disease Modifying Antirheumatic Drugs in Rheumatoid Arthritis.

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OBJECTIVES

- Characterize treatment patterns in newly diagnosed RA population from 2000-2018
- Compare treatment patterns observed in real-world data to international guidelines (ACR, EULAR)
- Gather evidence internationally via the EHDEN & OHDSI data network

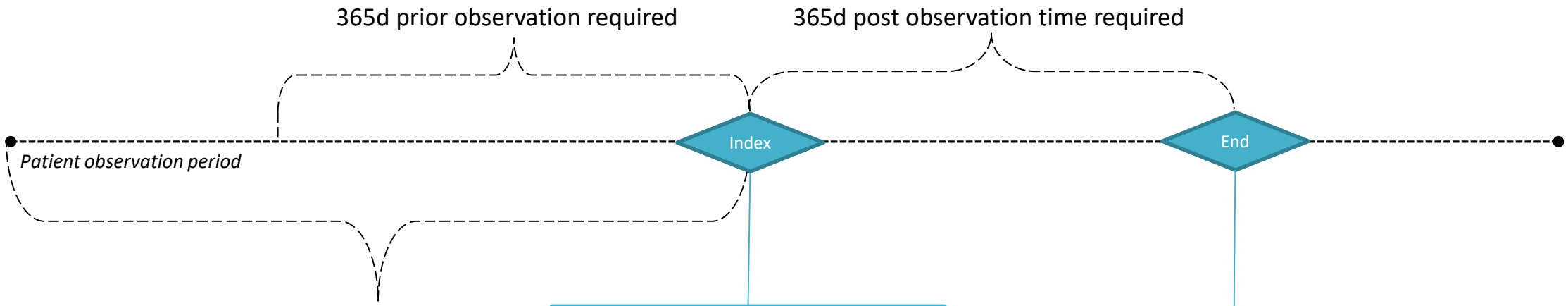
METHODS – TREATMENT PATHWAYS VIA ATLAS

- Target cohort: newly diagnosed RA Patients
- Event cohorts: One cohort for each DMARDs + Minocycline (16 total)

DMARD Groups

csDMARDs	boDMARDs	tsDMARDs
Methotrexate (MTX)	TNF Inhibitors	JAK Inhibitors
Hydroxychloroquine (HCQ)	• Etanercept	• Tofacitinib
Sulfasalazine (SSZ)	• Adalimumab	• Baricitinib
Leflunomide (LEF)	• Certolizumab	
	• Golimumab	
	• Infliximab	
	Abatacept	
	Rituximab	
	IL-6 Receptor Inhibitors	
	• Tocilizumab	
	• Sarilumab	

TARGET COHORT DEFINITION



- No inflammatory arthropathies any time prior
- No prior RA diagnosis in history

1. Earliest of:
   - First diagnosis of RA in their history
   - Exposure to DMARD with RA diagnosis between 0 and 30 days from exposure
2. Age >= 18
3. Event must have occurred between Jan 1-Dec 31 of calendar year *

End cohort membership after fixed duration of 365d from index

** One cohort created for each calendar year (2000-2018)*

EVENT COHORT DEFINITIONS

- A cohort for each DMARD and Minocycline were created with a 90 day persistence window *.

DMARD Groups

csDMARDs	boDMARDs	tsDMARDs
Methotrexate (MTX)	TNF Inhibitors	JAK Inhibitors
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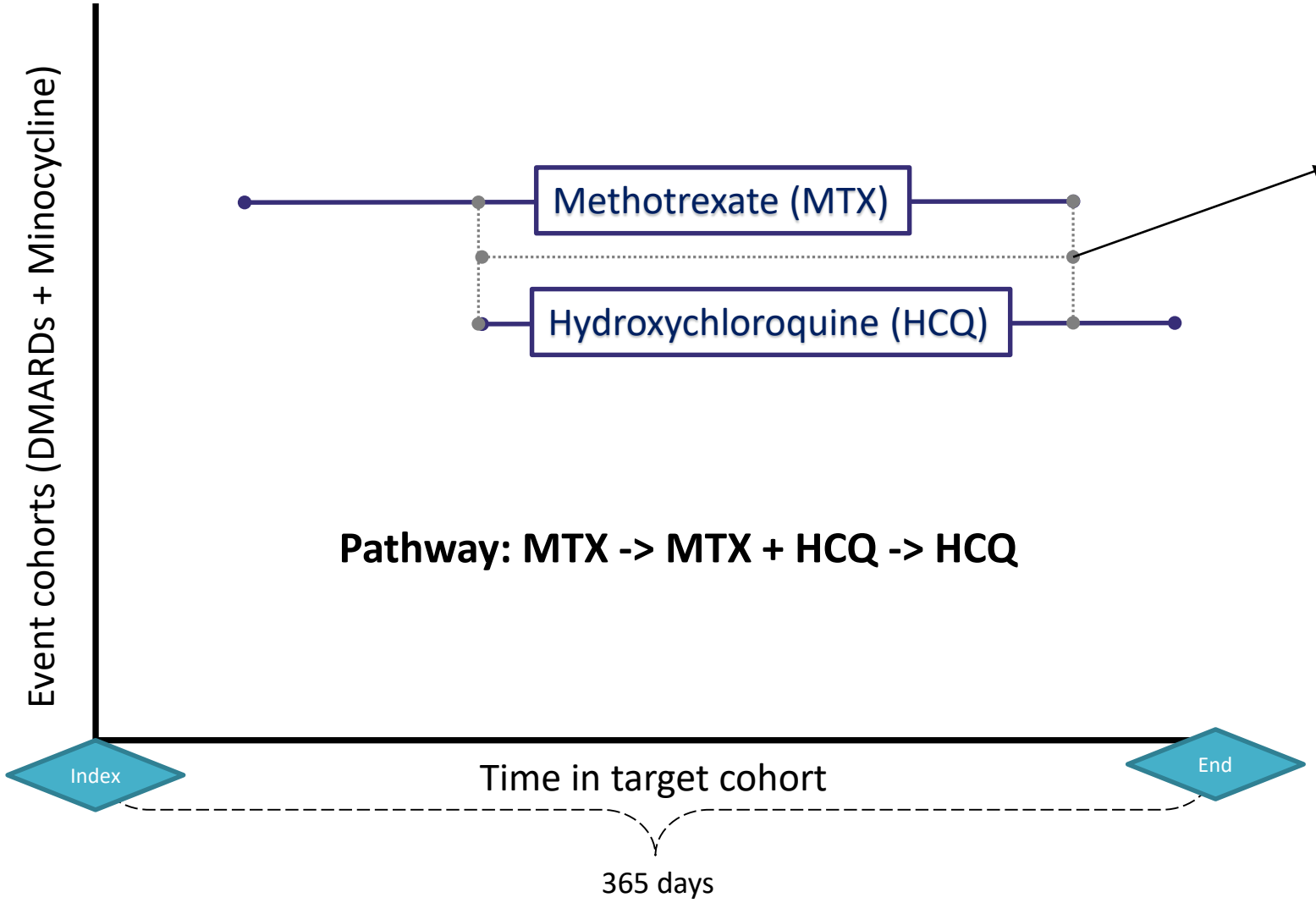
	• Infliximab	
	Abatacept	
	Rituximab	
	IL-6 Receptor Inhibitors	
	• Tocilizumab	
	• Sarilumab	

** Rituximab used a 365d persistence window with 180d surveillance window*

Treatment Pathway Analysis



Analysis Settings:

1. Combination Window: 30 Days

2. Minimum Cell Count: 5 persons

3. Maximum Path Length: 10

METHODS (CONTINUED)

- ATLAS Pathways Design specification included as part of the OHDSI Study package:
  - https://github.com/ohdsi-studies/EhdenRaDrugUtilization
- Each site participating in the study ran the analysis using ATLAS on their data
- Results were retrieved and packaged using R
- Aggregated results were reviewed as a team with eye towards abstract and manuscript authoring

RESULTS

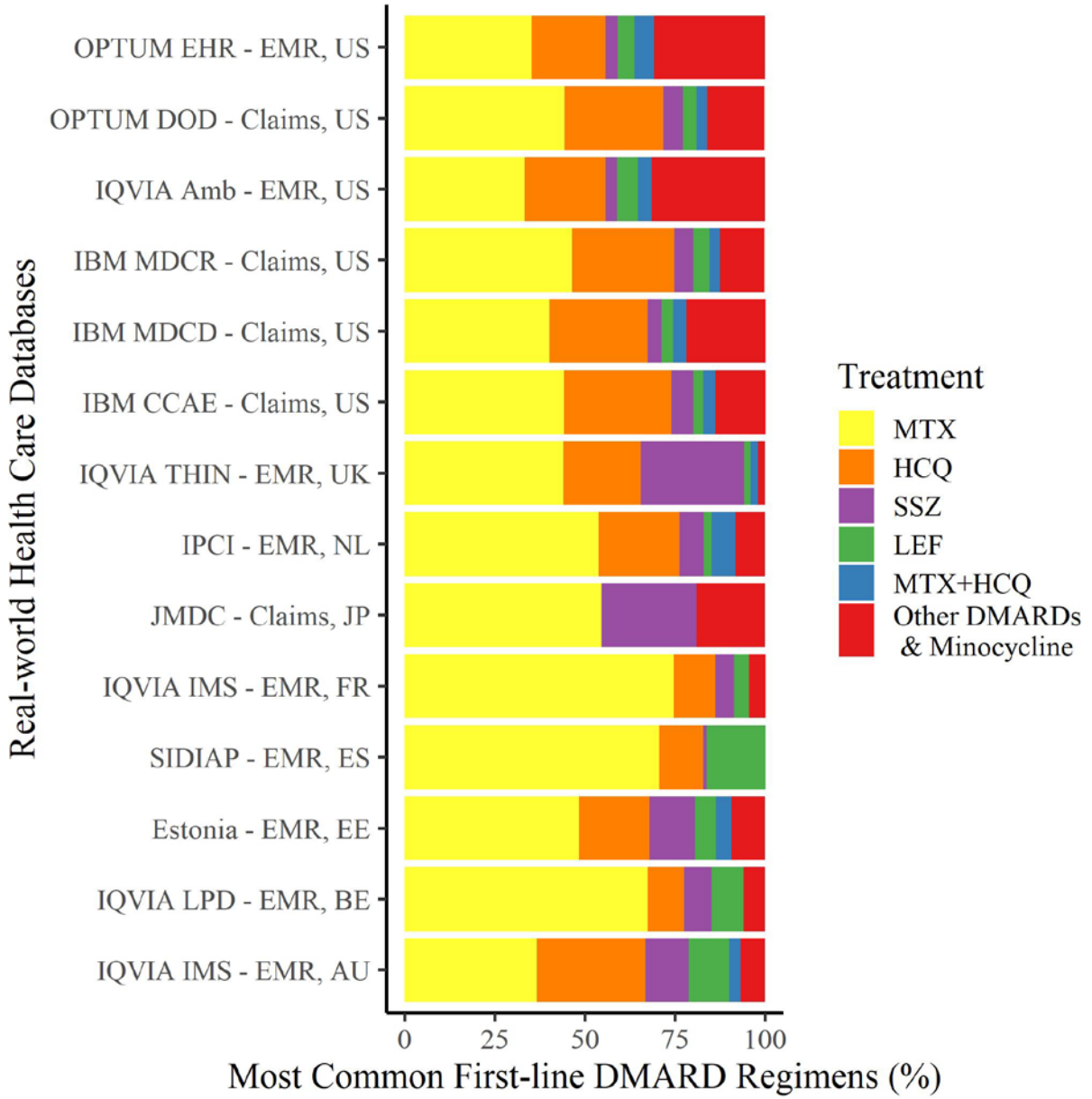
- Focused on first-line treatments with conventional synthetic DMARDs for EULAR abstract
- Investigated secular trends for first line treatments across all available time per database for ISPE abstract

Study Data Sources

Data Collected: 2000-2018. Data availability indicated per database by min/max year

COUNTRY	DATABASE	DATA COLLECTION	NEW RA PATIENTS	RECEIVED TREAMENT IN 1st YR	% With Treatment	MIN_YEAR	MAX_YEAR
US	AmbEMR	EHR	193,397	84,137	43.5%	2005	2018
AU	Australia	GP	1,645	539	32.8%	2008	2017
BE	Belgium	GP	2,163	775	35.8%	2009	2018
US	CCAE	Claims	208,355	51,409	24.7%	2001	2018
ES	Estonia	Inpatient/Outpatient	6,144	1,837	29.9%	2010	2015
FR	France	GP	2,087	337	16.1%	2010	2018
NL	IPCI	GP	1,974	732	37.1%	2000	2017
JP	JMDC	Claims	24,233	3,982	16.4%	2006	2018
US	MDCD	Claims	60,292	5,480	9.1%	2007	2017
US	MDCR	Claims	77,175	15,093	19.6%	2001	2018
US	Optum_DOD	Claims	226,249	37,883	16.7%	2001	2018
US	Optum_Panther	EHR	311,677	113,410	36.4%	2007	2018
ES	SIDIAP	GP	14,254	1,550	10.9%	2007	2016
UK	THIN	GP	20,812	6,383	30.7%	2000	2017
	TOTAL		**1,150,457**	**323,547**	**28.1%**		

RESULTS – FIRST LINE TREATMENTS OVERALL



RESULTS – FIRST LINE TREATMENT SECULAR TRENDS