Article:
Nikiphorou, E, Buch, MH orcid.org/0000-0002-8962-5642 and Hyrich, KL (2017) Biologics registers in RA: methodological aspects, current role and future applications. Nature Reviews Rheumatology, 13 (8). pp. 503-510. ISSN 1759-4790

https://doi.org/10.1038/nrrheum.2017.81

Fig 1

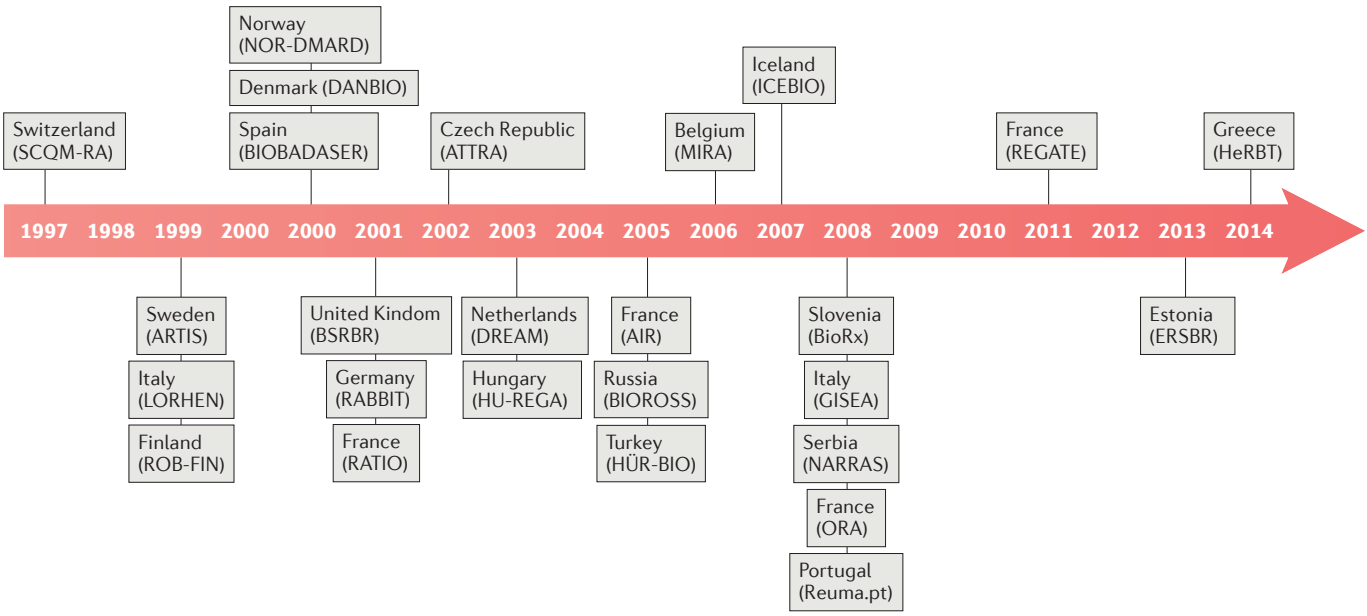
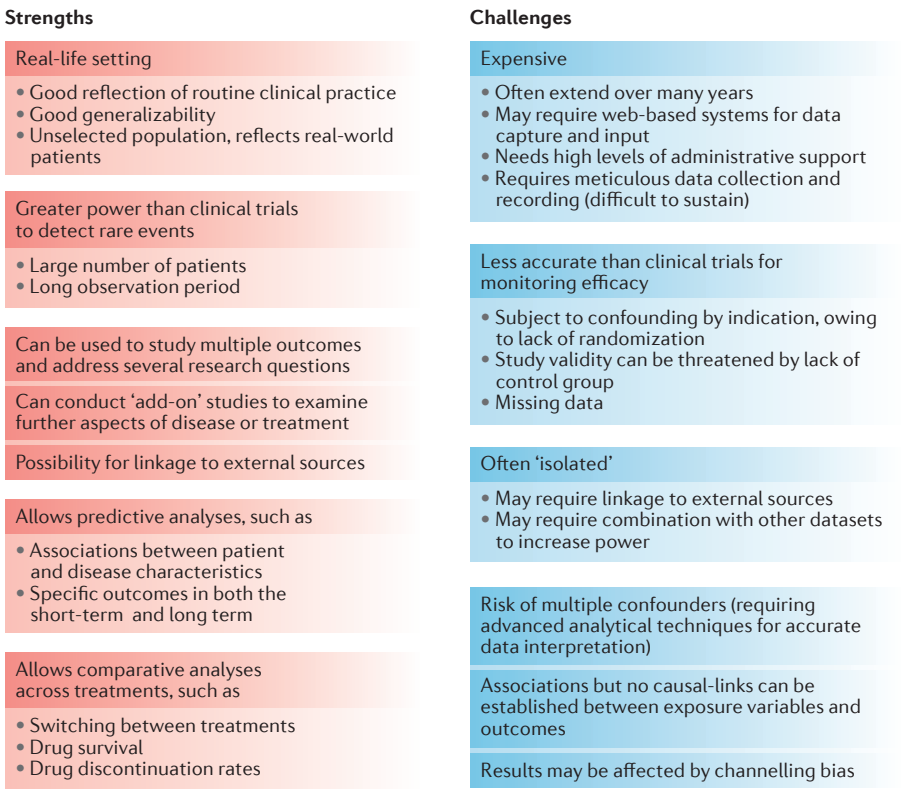

Norway (NOR-DMARD)
Denmark (DANBIO)
Iceland (ICEBIO)
Switzerland (SCQM-RA)
Spain (BIOBADASER)
Czech Republic (ATTRA)
Belgium (MIRA)
France (REGATE)
Greece (HeRBT)
1997
1998
1999
2000
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
Sweden (ARTIS)
Italy (LORHEN)
Finland (ROB-FIN)
United Kindom (BSRBR)
Germany (RABBIT)
France (RATIO)
Netherlands (DREAM)
Hungary (HU-REGA)
France (AIR)
Russia (BIOROSS)
Turkey (HÜR-BIO)
Slovenia (BioRx)
Italy (GISEA)
Serbia (NARRAS)
France (ORA)
Portugal (Reuma.pt)
Estonia (ERSBR)

Fig 2


Strengths
Real-life setting
• Good reflection of routine clinical practice
• Good generalizability
• Unselected population, reflects real-world patients
Greater power than clinical trials to detect rare events
• Large number of patients
• Long observation period
Can be used to study multiple outcomes and address several research questions
Can conduct 'add-on' studies to examine further aspects of disease or treatment
Possibility for linkage to external sources
Allows predictive analyses, such as
• Associations between patient and disease characteristics
• Specific outcomes in both the short-term and long term
Allows comparative analyses across treatments, such as
• Switching between treatments
• Drug survival
• Drug discontinuation rates
Challenges
Expensive
• Often extend over many years
• May require web-based systems for data capture and input
• Needs high levels of administrative support
• Requires meticulous data collection and recording (difficult to sustain)
Less accurate than clinical trials for monitoring efficacy
• Subject to confounding by indication, owing to lack of randomization
• Study validity can be threatened by lack of control group
• Missing data
Often 'isolated'
• May require linkage to external sources
• May require combination with other datasets to increase power
Risk of multiple confounders (requiring advanced analytical techniques for accurate data interpretation)
Associations but no causal-links can be established between exposure variables and outcomes
Results may be affected by channelling bias
Nature Reviews | Rheumatology