

Online Resource

Search strategy for non-registry period data using Medline (OvidSp)

The non-registry periods data search used the following Medical Subject Headings (MeSH), “arthroplasty, replacement, knee” and “arthroplasty, replacement, hip”. The following text words, “revision”, “trend”, and “prevalence” were also used. Next, the title and abstract of the articles were screened. After the screening, the full texts of included studies were assessed for eligibility (clarity, specificity for revision hip or knee, and revision rates reported over a period). CO did the search and screening, CO and SN assessed for eligibility, while JB reviewed the selections.

Table S-1: Search strategy for non-registry period data using Medline (OvidSp)

1	Arthroplasty, replacement, knee/
2	Arthroplasty, replacement, hip/
3	1 or 2
4	Revision.tw.
5	3 and 4
6	Trend.tw.
7	Prevalence.tw.
8	6 or 7
9	5 and 8
tw = text word	

Table S-2: Excluded reports due to few observations for non-registry data

	Period reported	Reported data	Other details	Source
Spain	2001 - 2008	Hip	Country without joint registry	[19]
Austria	2009 - 2015	Hip and Knee	Country without joint registry	[10]
Turkey	2010 - 2014	Knee	Country without joint registry; registry establishment in progress	[3]
Korea	2007 - 2011	Hip	Country without joint registry	[20]
Korea	2001 - 2010	Knee		[9]
Germany	2005 - 2011	Hip and Knee	Pre-registry data. Registry established in 2012	[21]
Brazil	2003 - 2010	Knee	Country without joint registry	[22]

Table S-3: Excluded registries due to few observations for registry data

Country	Year registry established	Surgeries reported	Management and participation	Validation and completeness	Reporting style	Source
Canada	2001	Hip and knee replacements.	MGT: government and orthopaedic society. Participation: mandatory in 3 provinces; voluntary to other provinces.	Validation: yes, and continuous. Completeness: 72% PROM data collection ongoing.	Annual; periodic reporting.	[23]
Germany	2012	Hip and knee replacements.	MGT: orthopaedic society Participation: voluntary	Validation: yes, and continuous. Completeness: > 70%	Annual	[24]
Belgium	2009	Hip and knee replacements.	MGT: government. Participation: voluntary	Validation: yes, and continuous. Completeness: > 82%	Annual	[25]
Netherlands	2009	Hip, knee, ankle, shoulder, elbow, wrist, and finger replacements.	MGT: orthopaedic association. Participation: voluntary	Validation: 90%. Completeness: > 95%	Annual	[26]
Pakistan	2014	Hip and knee replacements.	MGT: arthroplasty society. Participation: voluntary	Validation: yes. Completeness: > 70%	Annual	[27]
Portugal	2009	Hip, knee, and shoulder replacements.	MGT: orthopaedic society. Participation: voluntary	Validation: yes. Completeness: N/A	N/A	[28]
Switzerland	2012	Hip and knee replacements.	MGT: government. Participation: mandatory	Validation: yes. Completeness: > 80%	Annual	[29]
MGT: Management; PROM: Patient-reported outcome measure						

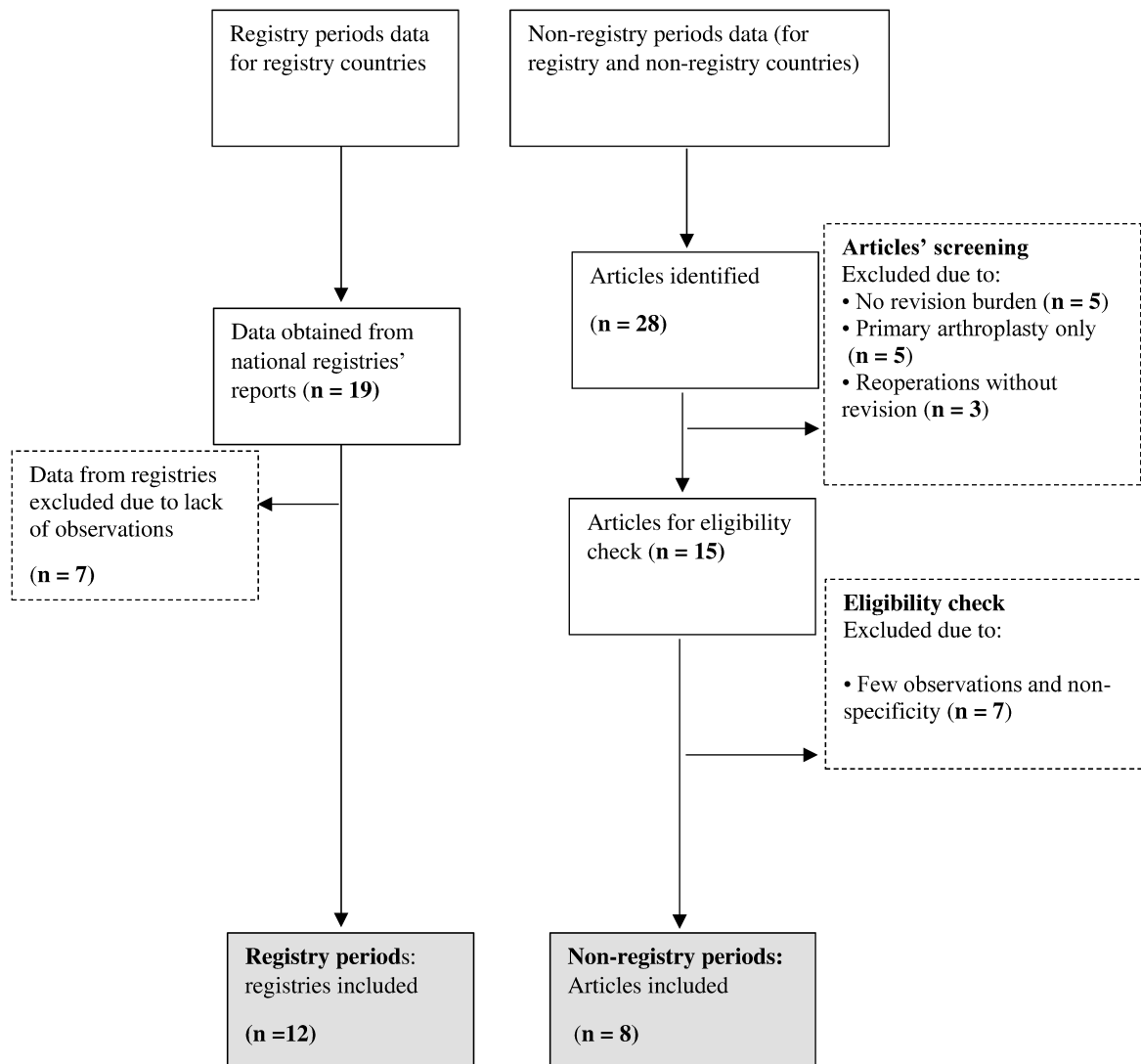


Figure S-1: Data selection process for registry periods and non-registry periods

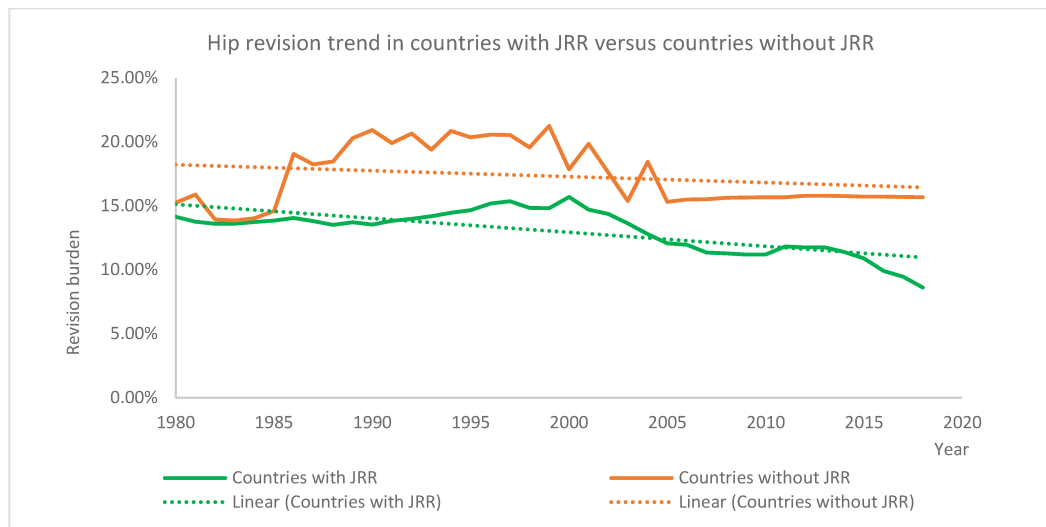


Figure S-2: Hip revision burden in countries with joint replacement registries versus countries without joint replacement registries.

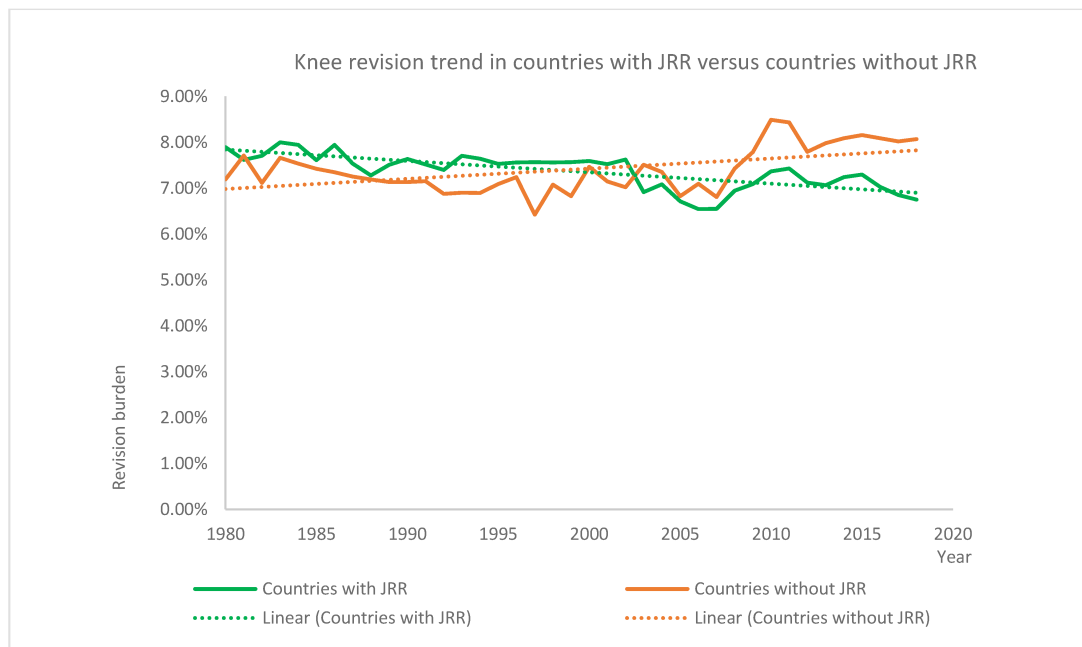


Figure S-3: Knee revision burden in countries with joint replacement registries versus countries without joint replacement registries.