

## Supplementary data

Table 1. Primary THA volume with OA diagnosis

Year	Kaiser Permanente	Sweden	Australia
2003	2,148	10,058	15,031
2004	2,901	10,678	16,124
2005	3,582	11,381	16,792
2006	3,907	11,525	17,408
2007	4,120	11,468	18,098
2008	4,535	11,538	19,785
2009	5,002	12,841	21,058
2010	5,827	13,128	22,565
2011	6,258	13,089	23,681
2012	6,974	13,267	24,525
2013	7,100	13,326	26,332
2014	8,322	13,646	28,571
2015	8,965	13,750	29,723
2015 population and THA incidence			
Population	10 million	9.9 million	24 million
THA incidence (per 10 <sup>5</sup> )	0.09	0.14	0.12

Table 2. Primary THA patient characteristics. Values are frequency (percent) unless otherwise specified

	Kaiser Permanente n = 69,641	Sweden n = 159,695	Australia n = 279,693
Follow-up, years <sup>a</sup>	4.4 (3.3)	5.5 (3.5)	5.1 (3.5)
Sex			
Male	29,364 (42.2)	68,218 (42.7)	128,953 (46.1)
Female	40,225 (57.8)	91,477 (57.3)	150,740 (53.9)
Age group			
< 40	610 (0.9)	838 (0.5)	2,486 (0.9)
40–49	3,396 (4.9)	4,898 (3.1)	11,885 (4.2)
50–59	14,379 (20.6)	21,441 (13.4)	44,233 (15.8)
60–69	24,165 (34.7)	54,142 (33.9)	89,750 (32.1)
70–79	19,437 (27.9)	55,807 (34.9)	91,173 (32.6)
80–89	7,292 (10.5)	21,710 (13.6)	38,127 (13.6)
90+	318 (0.5)	859 (0.53)	2,039 (0.7)
BMI category			
< 30	40,493 (58.9)	68,251 (68.6)	14,973 (59.7)
≥ 30 and < 35	17,346 (25.2)	25,456 (25.6)	6,305 (25.1)
≥ 35	10,873 (15.8)	5,736 (5.8)	3,799 (15.1)
ASA class			
1	2,362 (3.5)	24,724 (24.4)	8,043 (10.7)
2	42,099 (61.9)	60,548 (59.8)	42,289 (56.2)
3	22,789 (33.5)	15,534 (15.4)	23,847 (31.7)
4	721 (1.1)	367 (0.4)	1,088 (1.4)
5	7 (0.0)	3 (0.0)	9 (0.0)
<sup>a</sup> Mean (SD)			

Table 3. Primary THA and main surgical approaches. Values are frequency (percent)

Surgical approach	Kaiser Permanente n = 69,641	Sweden n = 159,695	Australia n = 29,723
Posterior	48,321 (74.8)	86,692 (54.5)	13,029 (43.8)
Lateral	7,925 (11.4)	61,995 (38.8)	6,409 (21.6)
Direct anterior	8,270 (12.8)		6,079 (20.5)

Table 4. Primary THA implants and characteristics. Values are frequency (percent)

	Kaiser Permanente n = 69,641	Sweden n = 159,695	Australia n = 279,693
Femoral head size			
≤ 28	7,510 (10.7)	87,994 (55.0)	67,730 (24.0)
32	23,560 (33.8)	62,345 (39.0)	102,108 (36.5)
36	32,603 (46.8)	7,328 (4.6)	89,608 (32.0)
> 36	5,055 (7.3)	535 (0.3)	20,156 (7.2)
Missing	913 (1.3)	54 (0.0)	91 (0.0)
Fixation			
Cemented	225 (0.3)	116,753 (73.1)	16,490 (5.9)
Cementless	61,004 (93.0)	22,893 (14.3)	175,515 (62.8)
Hybrid	4,288 (6.5)	3,344 (2.1)	87,688 (31.4)
Reverse hybrid	49 (0.0)	16,705 (10.5)	
Bearing surface			
Ceramic-on-			
ceramic	487 (0.7)	633 (0.4)	67,410 (24.1)
conventional	23 (0.0)	11,747 (7.4)	3,661 (1.3)
HXLPE	18,875 (27.1)	8,058 (5.0)	54,760 (19.5)
metal	141 (0.2)	1 (0)	300 (0.1)
Metal-on-			
conventional	823 (1.2)	78,880 (49.4)	20,987 (7.5)
HXLPE	43,440 (62.4)	58,066 (36.4)	11,419 (40.9)
metal	4,608 (6.6)	551 (0.3)	17,824 (6.4)

Table 5. Primary THA and hospital annual volumes. Values are frequency (percent)

Annual primary THA volume	Kaiser Permanente n = 69,641	Sweden n = 159,695	Australia n = 279,693
1–50	2,798 (4.0)	2,825 (1.8)	35,161 (12.6)
51–100	8,600 (12.4)	17,423 (11.1)	68,007 (24.3)
101–150	20,691 (29.7)	32,878 (21.0)	50,598 (18.2)
151–200	12,185 (17.5)	33,453 (21.3)	35,371 (12.6)
201–250	10,233 (14.7)	21,185 (13.5)	18,056 (6.5)
251–300	5,209 (7.9)	20,365 (13.0)	22,427 (8.0)
301–400	3,158 (4.5)	13,710 (8.7)	7,678 (2.7)
401–500	5,359 (7.7)	8,861 (5.6)	21,729 (7.8)
501–600	1,418 (2.0)	0	12,994 (4.6)
> 600	0 (0)	8,995 (5.7)	7,672 (2.7)

Table 6. THA survival for all implants and all patients

	Kaiser Permanente n = 69,641	Sweden n = 159,695	Australia n = 279,693
Revised primaries, n (%)	1,938 (2.8)	4,411 (2.7)	10,832 (3.9)
5-year survival rate (95% CI)	97.0 (96.7–97.2)	97.8 (97.8–97.9)	96.3 (96.2–96.4)
10-year survival rate (95% CI)	95.2 (94.7–95.6)	95.8 (95.6–95.9)	93.5 (93.4–93.7)

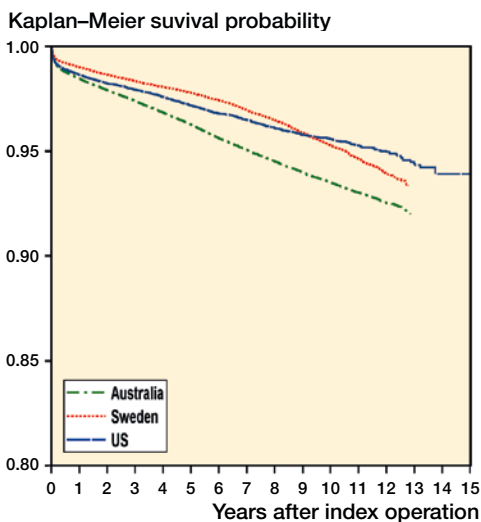


Figure 3. THA implant survival by country.

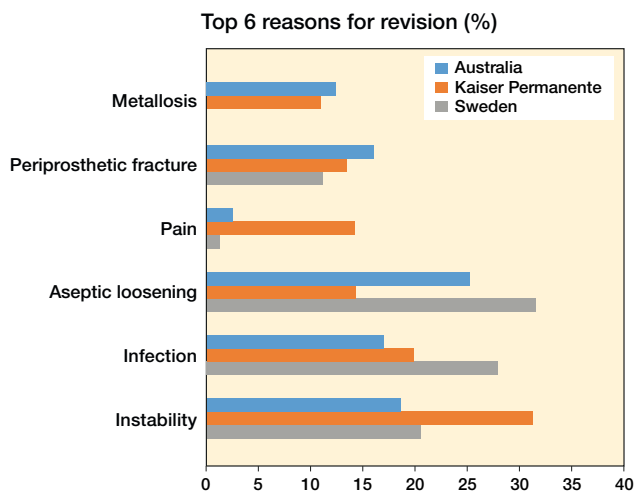


Figure 4. Top 6 reasons for revision.