

Implant Summary Report for:

Heraeus Medical

Knees using Palacos Antibiotic Cement

Comprising PRIMARY knees implanted up to:
NJR Database extract:

27 January 2026
26 February 2026

Produced on:
Licensed for use until:

10 March 2026
10 March 2027

Contents

Recorded Usage in NJR	2
Patient and Procedure Details	3
Revision and Survivorship	4
Patient Reported Outcome Measures	7
APPENDIX A – Component Lists	12

This report has been produced by the National Joint Registry (NJR). It summarises usage and outcomes associated with brand(s) Palacos Antibiotic up to the specified dates. Patients aged less than 18 have been excluded. This analysis is based on data collected by the NJR and PROMs data collected by the NHS for the components listed in Appendix A. This report excludes all procedures where major components from mixed manufacturers have been implanted.

This report is made available to Heraeus Medical under licence. Under this licence, Heraeus Medical is free to distribute this document, subject to the restrictions specified in the National Joint Registry Supplier Feedback Terms of Use and Use Code of Practice.

NJR Recorded Usage

Implant Usage

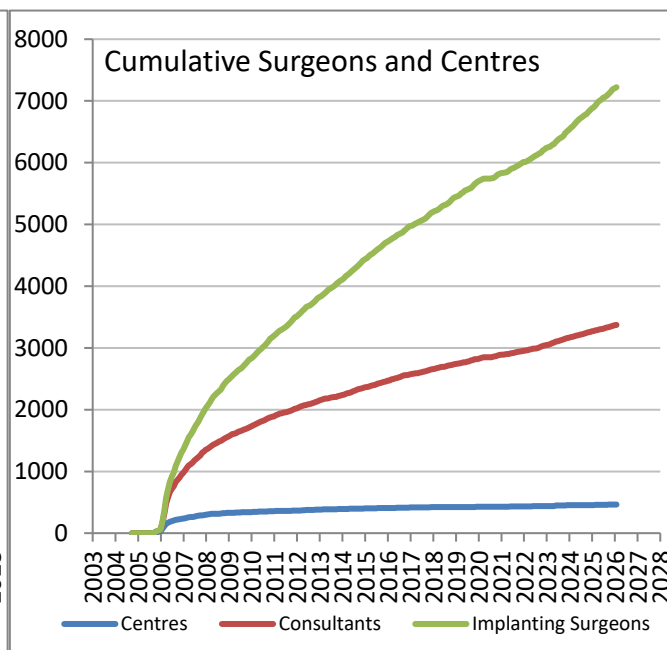
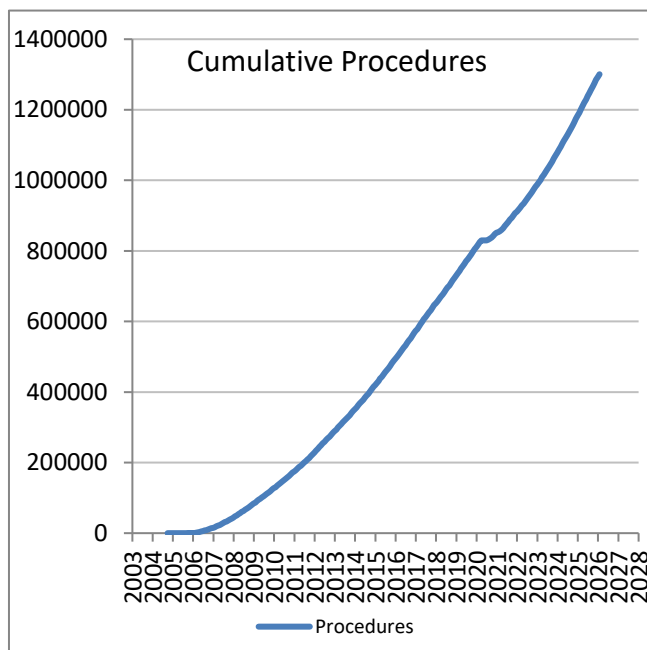
Date of first recorded usage in the NJR: **01 September 2005**

Date of last recorded usage in this dataset **27 January 2026**

Maximum implantation time: 20.4 years

Mean implantation time: 7.0 years

Totals Recorded in NJR	Cumulative Total
Procedures	1,301,000
Patients	1,049,347
Centres	463
Consultants	3,372
Implanting Surgeons	7,222



Current Outcome	Year of implantation														
	Pre-2015	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Total	%
Death	2E+05	18372	16797	14145	11341	9645	3312	3583	3234	2254	1195	407	2	259115	19.9%
Revised	19771	2552	2322	2134	1797	1494	677	878	948	810	568	325	2	34278	2.6%
Unrevised	2E+05	53138	59446	63414	64496	70006	35941	56300	71574	88238	1E+05	1E+05	6994	1007607	77.4%
Total	4E+05	74062	78565	79693	77634	81145	39930	60761	75756	91302	1E+05	1E+05	6998	1301000	100%

Patient / Procedure Details

Patient Details

	Knees using Palacos Antibiotic Cement	All other cement brands in NJR
Total Procedures	1,301,000	517,326
Total Patients	1,049,347	438,779
Demographics		
Mean age	69.7	69.8
< 50	2.2%	2.5%
50 – 59	13.7%	13.2%
60 – 69	33.1%	32.4%
70 – 79	37.4%	37.7%
≥ 80	13.7%	14.3%
Median BMI	30	30
% BMI information available	75.2%	60.5%
Underweight (BMI < 18.5)	0.2%	0.2%
Normal (18.5 ≤ BMI < 25)	10.3%	11.1%
Overweight (25 ≤ BMI < 30)	34.0%	34.5%
Obese I (30 ≤ BMI < 35)	32.5%	31.4%
Obese II (35 ≤ BMI < 40)	16.7%	16.2%
Obese III (BMI ≥ 40)	6.4%	6.5%
%Female	56.4%	57.0%
%Male	43.6%	42.9%
ASA Grades		
P1 - Fit and healthy	8.3%	11.7%
P2 - Mild disease not incapacitating	72.5%	70.2%
P3 - Incapacitating systemic disease	18.9%	17.7%
P4 / P5	0.3%	0.4%
Indications		
Osteoarthritis	97.75%	97.04%
RheumatoidArthritis	1.12%	1.62%
OtherInflammatoryArthropathy	0.75%	0.73%
PreviousTrauma	0.64%	0.75%
AvascularNecrosis	0.36%	0.38%
Other	0.64%	0.93%

Total of indications may exceed total number of implants, since more than one indication can be listed per case.

Revision and Survivorship

Reasons for Revision

Reasons for revision of primary procedures in which the implant was used.

Reason for Revision	Revised [†]	Expected Revisions [*]	Revision Rate Ratio (80% Cred. Int.)	Probability RRR < 1
Infection	7630	7765.17	0.92 - 0.97	0.997
Progressive Arthritis Remaining	6185	6439.52	0.87 - 0.92	> 0.999
Aseptic Loosening Femur	3079	3209.69	0.88 - 0.94	> 0.999
Aseptic Loosening Tibia	6348	6344.97	0.98 - 1.03	0.47
Aseptic Loosening Patella	470	467.95	0.92 - 1.11	0.44
Unexplained Pain	3763	3820.92	0.93 - 0.99	0.93
Stiffness	2107	2121.04	0.93 - 1.03	0.70
Malalignment	2257	2310.38	0.90 - 0.98	0.97
Instability	4996	5102.85	0.92 - 0.97	0.993
Dislocation / Subluxation	1090	1143.84	0.83 - 0.94	0.995
Periprosthetic Fracture	1813	1822.13	0.94 - 1.04	0.64
Wear of Polyethylene Component	1845	2024.97	0.79 - 0.86	> 0.999
Lysis - Tibia	1530	1555.57	0.91 - 1.01	0.84
Lysis - Femur	942	1001.21	0.82 - 0.93	0.998
Component Dissociation	373	393.68	0.80 - 0.97	0.95
Implant Fracture	219	225.42	0.82 - 1.07	0.74
Other / Not recorded	1888	1892.35	0.95 - 1.04	0.56
Total Revised	34275	34941.33	0.94 - 0.96	> 0.999

[†] multiple reasons may be listed for one revision procedure ^{*} Based on All NJR Knees with Cement, adjusted for Age group, Sex and Implantation year

LCI > 100% higher than expected

LCI > 50% higher than expected

LCI > 20% higher than expected



UCI < 1/2 expected

UCI < 2/3 expected

UCI < 5/6 expected

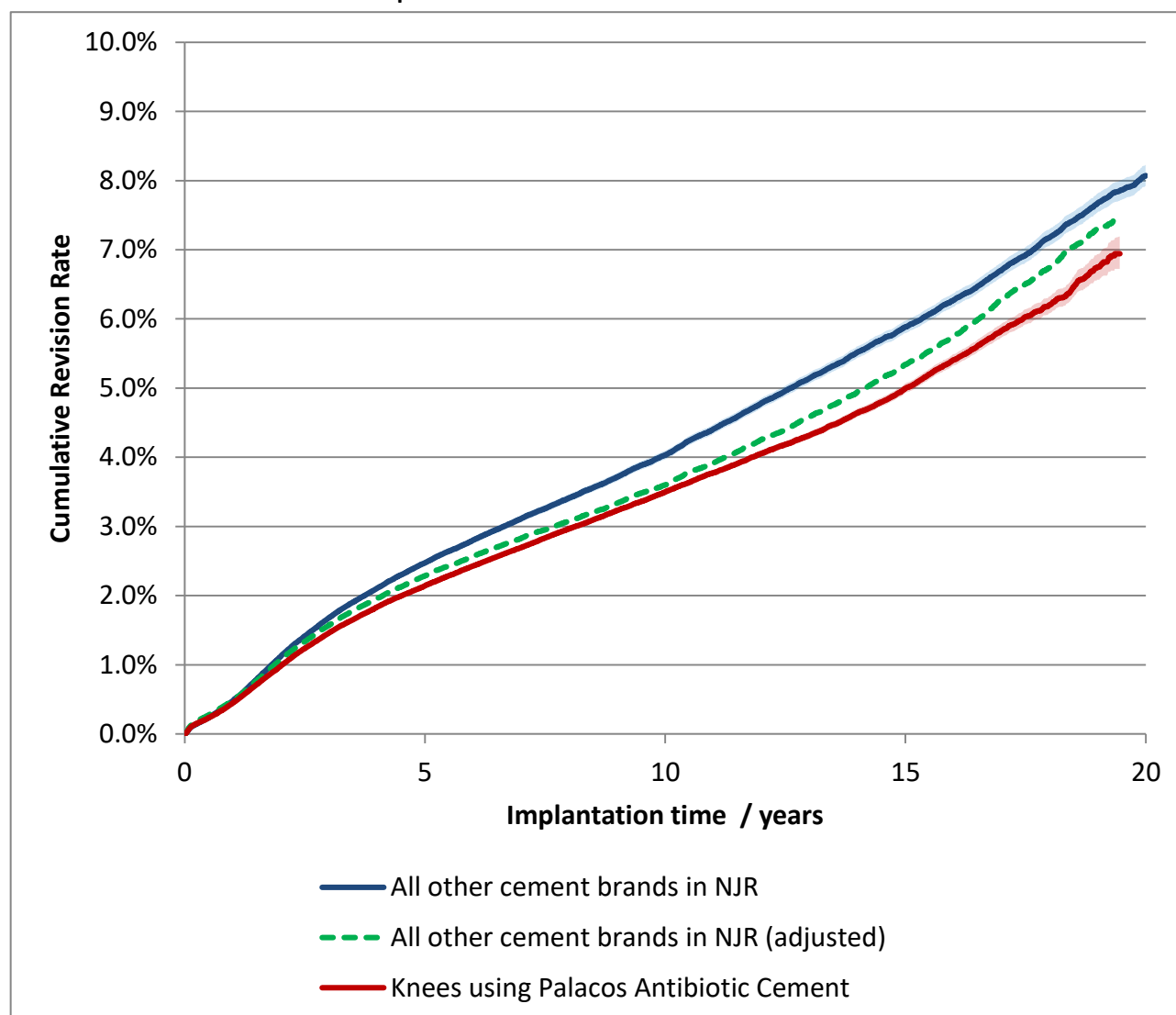


Components Revised	Knees using Palacos Antibiotic Cement		All other cement brands in NJR
Femoral only	1001	2.9%	3.3%
Tibial only	1654	4.8%	4.6%
Femoral and Tibial	21931	64.0%	71.7%
Bearing exchange only	5143	15.0%	10.5%
Secondary patella resurfacing only	3873	11.3%	8.4%
Patella revision only	330	1.0%	0.8%
Not recorded	346	1.0%	0.8%

Revision and Survivorship

Cumulative Revision Rate

Endpoint: All reasons for revision.



Cox Proportional Hazards model for revision risk ratio of Knees using Palacos Antibiotic Cement / All other cement brands in NJR, with endpoint as any revision.

Adjustment	Hazard Ratio (95% CI)	p- value
Unadjusted.	0.86 (0.84 - 0.87)	< 0.001
Adjusted for age, sex, ASA, BMI, Op.date and indications.	0.94 (0.92 - 0.95)	< 0.001

Revision and Survivorship

Cumulative Revision Rate

Endpoint: All revisions

Period /years	At Risk	Knees using Palacos Antibiotic Cement	All other cement brands in NJR
0	1301000	0.00% (0.00% - 0.00%)	0.00% (0.00% - 0.00%)
1	1175952	0.45% (0.44% - 0.46%)	0.48% (0.46% - 0.50%)
2	1053531	0.98% (0.97% - 1.00%)	1.12% (1.10% - 1.15%)
3	942938	1.46% (1.44% - 1.48%)	1.68% (1.64% - 1.71%)
4	848402	1.83% (1.81% - 1.86%)	2.11% (2.06% - 2.15%)
5	767422	2.14% (2.12% - 2.17%)	2.47% (2.43% - 2.52%)
6	711215	2.43% (2.40% - 2.46%)	2.80% (2.75% - 2.85%)
7	616844	2.70% (2.66% - 2.73%)	3.11% (3.06% - 3.16%)
8	528326	2.97% (2.93% - 3.00%)	3.41% (3.36% - 3.47%)
9	443104	3.23% (3.19% - 3.27%)	3.71% (3.66% - 3.77%)
10	363393	3.50% (3.46% - 3.54%)	4.03% (3.97% - 4.09%)
11	291499	3.77% (3.73% - 3.82%)	4.41% (4.34% - 4.47%)
12	229102	4.06% (4.01% - 4.10%)	4.78% (4.71% - 4.86%)
13	176221	4.32% (4.26% - 4.37%)	5.14% (5.07% - 5.22%)
14	129972	4.64% (4.58% - 4.70%)	5.52% (5.44% - 5.60%)
15	91439	5.00% (4.93% - 5.07%)	5.88% (5.79% - 5.97%)
16	61184	5.41% (5.33% - 5.49%)	6.27% (6.18% - 6.37%)
17	36698	5.83% (5.73% - 5.93%)	6.71% (6.60% - 6.81%)
18	17952	6.20% (6.08% - 6.33%)	7.18% (7.06% - 7.30%)
19	5794	6.75% (6.57% - 6.94%)	7.68% (7.54% - 7.81%)
20			8.07% (7.92% - 8.23%)

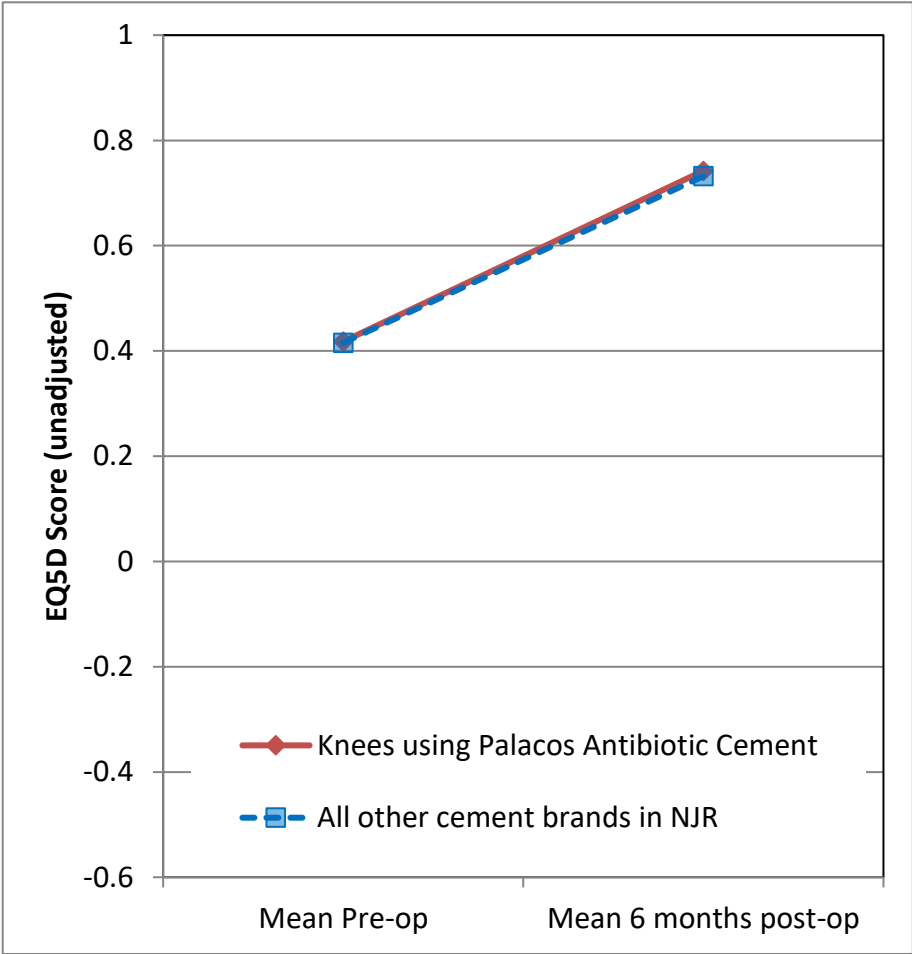
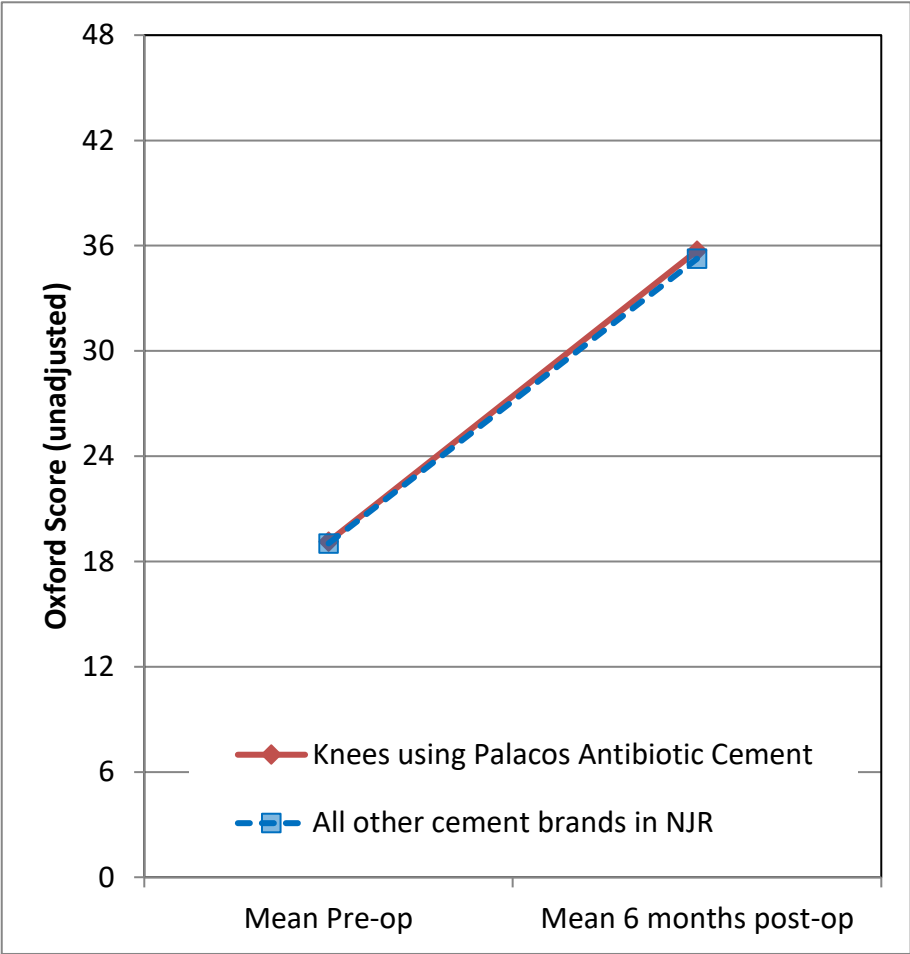
Cumulative revision rate with 95% confidence intervals

Rate is only reported for times where 40 or more remain at risk

PROMs Analysis

Patient Reported Outcomes

Comprising PROMs data up to and including: 30/03/2024



Patient Reported Outcomes

PROMs Analysis

Comprising PROMs data up to and including: 30/03/2024

Oxford Knee Score (0 - 48)	Knees using Palacos Antibiotic Cement	All other cement brands in NJR	All knees in NJR
Paired Records	314,036	109,007	443,828
PreOp score	19.1 (19.1 - 19.2)	19.0 (19.0 - 19.1)	19.1 (19.1 - 19.1)
6 month score	35.7 (35.7 - 35.7)	35.3 (35.2 - 35.3)	35.6 (35.6 - 35.6)
6 month score (adjusted)	35.7 (35.7 - 35.7)	35.4 (35.3 - 35.4)	35.6 (35.6 - 35.6)
Health gain	16.6 (16.6 - 16.6)	16.2 (16.2 - 16.3)	16.5 (16.5 - 16.5)
Health gain (adjusted)	16.6 (16.5 - 16.6)	16.2 (16.2 - 16.3)	16.5 (16.5 - 16.5)
p value (adjusted health gain)	<0.001		
Score Improved	94.1%	93.6%	94.0%

EQ-5D Index (-0.59 - 1.00)	Knees using Palacos Antibiotic Cement	All other cement brands in NJR	All knees in NJR
Paired Records	292,159	100,991	412,599
PreOp score	0.418 (0.417 - 0.419)	0.416 (0.414 - 0.417)	0.418 (0.417 - 0.419)
6 month score	0.742 (0.741 - 0.743)	0.732 (0.730 - 0.734)	0.740 (0.739 - 0.741)
6 month score (adjusted)	0.742 (0.741 - 0.742)	0.735 (0.733 - 0.736)	0.740 (0.739 - 0.741)
Health gain	0.324 (0.324 - 0.325)	0.317 (0.315 - 0.318)	0.322 (0.321 - 0.323)
Health gain (adjusted)	0.324 (0.323 - 0.325)	0.317 (0.315 - 0.319)	0.322 (0.321 - 0.323)
p value (adjusted health gain)	<0.001		
Score Improved	81.7%	80.8%	81.5%

EQ-VAS (0 - 100)	Knees using Palacos Antibiotic Cement	All other cement brands in NJR	All knees in NJR
Paired Records	278,779	96,874	394,462
PreOp score	67.7 (67.7 - 67.8)	67.7 (67.6 - 67.8)	67.7 (67.7 - 67.8)
6 month score	74.2 (74.2 - 74.3)	73.5 (73.4 - 73.6)	74.1 (74.0 - 74.1)
6 month score (adjusted)	74.2 (74.1 - 74.3)	73.7 (73.6 - 73.8)	74.1 (74.0 - 74.1)
Health gain	6.5 (6.4 - 6.6)	5.8 (5.7 - 5.9)	6.3 (6.3 - 6.4)
Health gain (adjusted)	6.5 (6.4 - 6.5)	6.0 (5.8 - 6.1)	6.3 (6.3 - 6.4)
p value (adjusted health gain)	<0.001		
Score Improved	57.2%	55.5%	56.8%

Adjusted scores correspond to the NHS England version 3 casemix-adjustment model. This includes patient variables from PROMs, HES, and IMD data.

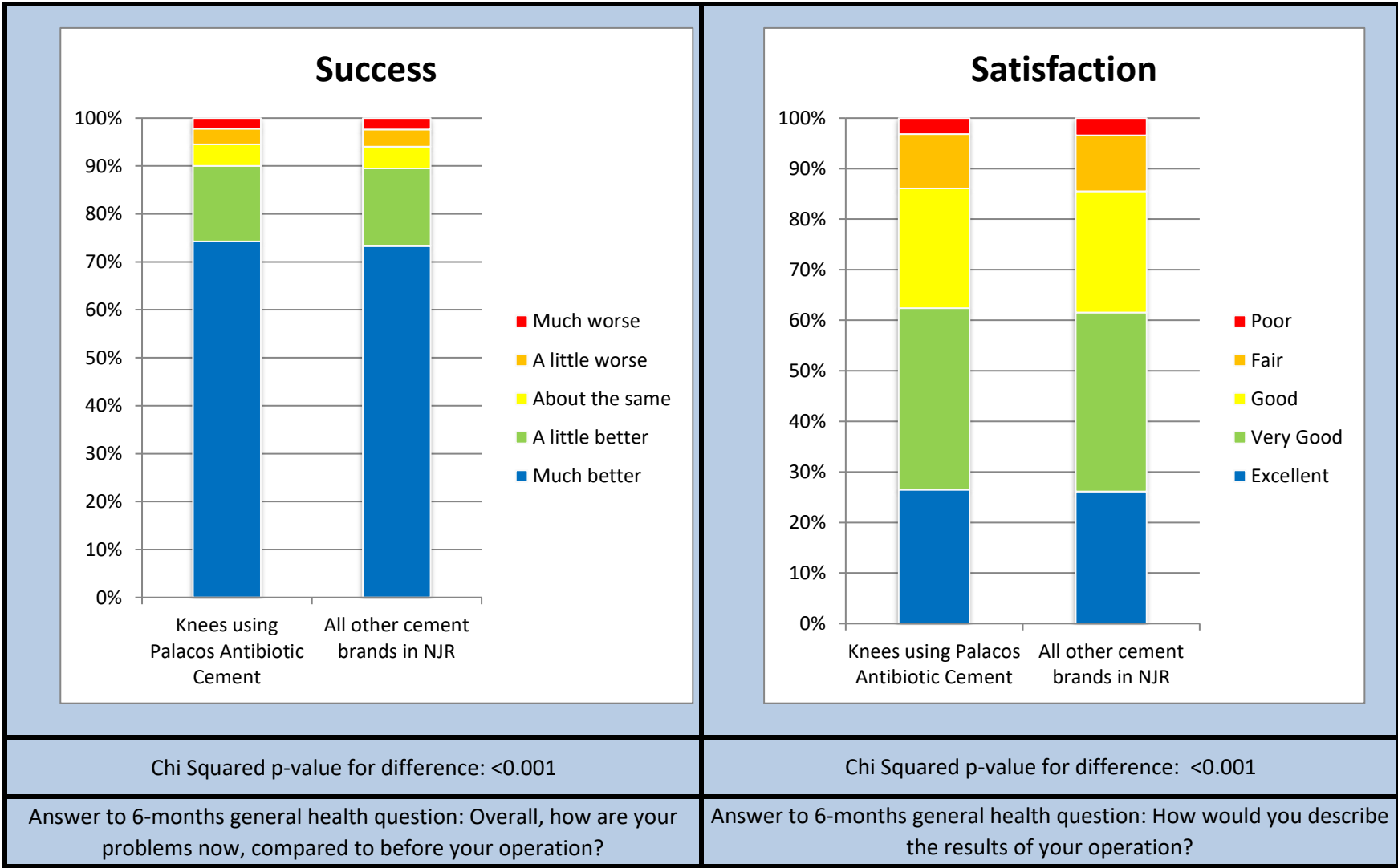
Figures in parentheses represent the 95% confidence interval for the mean

Summary Report for:

Knees using Palacos Antibiotic Cement

Responses are not case mix adjusted

Patient Reported Outcomes



Patient Reported Outcomes

Success

Response	Knees using Palacos Antibiotic Cement	All other cement brands in NJR
Much better	240734	83109
A little better	51089	18319
About the same	14413	5148
A little worse	10726	4086
Much worse	7126	2704

Answer to 6-months general health question:

"Overall, how are your problems now, compared to before your operation?"

Satisfaction

Response	Knees using Palacos Antibiotic Cement	All other cement brands in NJR
Excellent	85666	29544
Very Good	116132	40020
Good	76633	27129
Fair	34784	12525
Poor	10244	3860

Answer to 6-months general health question:

"How would you describe the results of your operation?"

Disclaimer

Disclaimer

The data used for this analysis was obtained from the National Joint Registry ("NJR"), part of the Healthcare Quality Improvement Partnership ("HQIP"). HQIP, the NJR and/or its contractor, NEC Software Solutions (UK) Limited ("NEC") take no responsibility (except as prohibited by law) for the accuracy, currency, reliability and correctness of any data used or referred to in this report, nor for the accuracy, currency, reliability and correctness of links or references to other information sources and disclaims all warranties in relation to such data, links and references to the maximum extent permitted by legislation including any duty of care to third party readers of the data analysis.

To the maximum extent permitted by law, neither the NJR or NEC shall have any liability (including but not limited to liability by reason of negligence) for any loss, damage, cost or expense incurred or arising by reason of any person using or relying on the data within this report and whether caused by reason of any error, omission or misrepresentation in the report or otherwise. This report is not to be taken as advice. Third parties using or relying on the data in this report do so at their own risk and will be responsible for making their own assessment and should verify all relevant representations, statements and information with their own professional advisers.

Appendix A: Component List

Catalogue Number	Description	Number Implanted
------------------	-------------	------------------

Cement		
5081273	PALACOS® R+G PRO 40 CE EUR	1
5081279	PALACOS® R+G PRO 60 CE EUR	5
5081280	PALACOS® R+G PRO 80 CE EUR	97
5081283	PALACOS® MV+G PRO 80 CE EUR	106
66017569	PALACOS R +G 2x40 g	1053329
66017747	PALACOS R +G 2x40 g	12479
66017771	PALACOS R +G 1x40 g	27132
66017772	PALACOS R +G 1x60 g	51988
66017773	PALACOS R +G 2x20 g	43659
66017775	PALACOS R +G 2x20 g	1
66017776	PALACOS R +G 2x10 g	34
66017787	PALACOS LV +G 1x40 g	1930
66031993	PALACOS MV+G 1x40g	632
66031995	PALACOS MV+G 2x40 g	5485
66031996	PALACOS MV+G 1x20g	9
66031998	PALACOS MV+G 2x20 g	38
66032000	PALACOS MV+G 1x60 g	1
66037894	PALACOS LV+G 1x20g	2
66044274	PALACOS R+G Pro 75 cement	13
Multiple Found	Multiple Found	103991
Multiple Found	PALACOS R +G 2x40 g	68