

Table S3. Expanded Outcomes Measurement And Drive Assessment In Included Studies

Reference	Baseline characteristics / risk-adjusted	Tier 1		Tier 2		Tier 3		Financial Outcome	Instruments used (if applied)	Data Origin
		Mortality	Degree of health/recovery	Time to recovery and return to normal activities	Disutility of the care or treatment process	Sustainability of health	Long-term consequences of therapy			
(Hernandez A. et al., 2019)	yes	no	yes	yes	yes	no	yes	TDABC	ICHOM, HEDIS	EHR
(Van Deen et al., 2017)	no	no	no	no	yes	yes	yes	External Database	NA	External Database
(Abdulla et al., 2012)	yes	no	no	no	no	yes	no	Hospital Charges	NA	EHR
(Ackerman et al., 2019)	yes	no	yes	yes	yes	no	no	Hospital Charges	0–10 pain intensity numeric rating scale.	EHR
(Ahn et al., 2019)	yes	no	yes	no	no	yes	yes	NA	HOOS, KOOS	EHR
(Bateni et al., 2019)	yes	yes	no	no	yes	yes	no	Hospital Charges	NA	EHR
(Berglund et al., 2019)	yes	no	yes	yes	yes	no	yes	Hospital charges / reimbursement / institutional accounting system	SST, ASES, VAS, SANE, patient satisfaction	EHR
(Bernstein et al., 2018)	yes	yes	yes	yes	yes	yes	no	Hospital Charges	AMPAC	EHR
(Boltz et al., 2019)	no	yes	no	no	yes	yes	no	Cost of Implementation	HCAHPS	EHR
(Bolz & Iorio, 2016)	yes	no	yes	no	yes	yes	no	Reimbursement	NA	EHR
(Chatfield et al., 2019)	yes	yes	no	no	yes	yes	no	Microcosting	Experience survey	EHR
(Colegate-Stone et al., 2016)	yes	yes	no	yes	yes	no	no	TDABC	NA	EHR
(Danilyants et al., 2019)	yes	no	yes	no	yes	yes	yes	TDABC	Experience survey	EHR
(DiGioia & Greenhouse, 2012)	no	yes	yes	yes	yes	no	no	NA	HCAHPS	EHR
(Dundon et al., 2016)	yes	no	yes	no	yes	yes	no	Reimbursement	NA	EHR
(Ebinger et al., 2018)	yes	yes	yes	no	yes	no	no	Microcosting	NA	EHR
(Featherall et al., 2019)	yes	no	yes	no	yes	yes	no	Microcosting	HCAHPS	EHR
(Featherall et al., 2018)	yes	no	yes	no	yes	yes	no	External Database	NA	EHR

(Gabriel et al., 2019)	yes	yes	yes	yes	yes	no	yes	Microcosting	OHS, EQ-5D, VAS	EHR
(Glotzbach et al., 2018)	yes	yes	yes	yes	yes	no	no	Microcosting	NA	EHR
(Golas et al., 2018)	yes	no	no	no	yes	yes	no	External Database	NA	EHR
(Goretti et al., 2020)	yes	yes	yes	yes	yes	yes	yes	Microcosting	BAROS	EHR
(Gray et al., 2019)	yes	no	yes	yes	yes	yes	no	Institutional accounting system	NA	EHR
(Gustafsson et al., 2016)	yes	yes	yes	no	yes	yes	no	NA	NA	EHR
	(Iorio et al., 2016)	no	no	yes	no	yes	yes	Reimbursement	NA	EHR
(Johnson et al., 2019)	yes	no	yes	yes	yes	no	yes	NA	AMPAC, PF-CAT	EHR
(Khullar et al., 2015)	yes	yes	no	no	yes	yes	no	External Database	NA	External Database
(Kirkpatrick et al., 2015)	no	yes	no	no	yes	yes	no	External Database	NA	EHR
(Kulkarni et al., 2011)	yes	no	yes	no	yes	yes	no	Institutional accounting system	NA	EHR
(Lee et al., 2016)	yes	yes	no	yes	yes	yes	yes	DRG	PROMIS	External Database
(Makdisse et al., 2018)	yes	no	no	yes	yes	yes	yes	TDABC	ICHOM	EHR
(McCreary et al., 2019)	yes	no	yes	yes	yes	no	no	TDABC	SMFA	EHR
(Navarro et al., 2018)	yes	no	no	no	yes	no	no	Reimbursement	NA	External Database
(Noria et al., 2015)	yes	yes	no	yes	yes	yes	no	NA	HCAHPS	EHR
(Parker et al., 2017)	yes	no	yes	yes	yes	yes	yes	Microcosting	ODI, EQ-5D	EHR
(Peard et al., 2019)	yes	no	yes	no	yes	yes	no	Institutional accounting system	NA	EHR
(Pelt et al., 2016)	yes	no	yes	yes	yes	no	no	Institutional accounting system	ASA	EHR
(Ravikumar et al., 2010)	yes	yes	no	no	yes	yes	no	DRG	NA	EHR
(Rosner et al., 2018)	yes	no	no	no	yes	yes	no	Institutional accounting system	NA	External Database
(Smith et al., 2016)	yes	no	no	yes	yes	yes	no	External Database	NA	External Database
(Thaker et al., 2016)	yes	yes	yes	yes	yes	yes	yes	TDABC	ICHOM	EHR
(Van Den Berg et al., 2020)	yes	yes	yes	yes	yes	no	no	NA	ICHOM	EHR

(van Egdom et al., 2019)	yes	yes	yes	yes	yes	yes	yes	NA	EORTC-QLQ-C30, EORTC-QLQ-B23, BREAST-Q, EQ-5D-5L, RCS-NL, CarerQoL-7D, Distress Thermometer, and Experience survey	EHR
(van Veghel et al., 2016)	yes	yes	yes	no	yes	yes	yes	NA	SF-36	External database
(Weiss et al., 2019)	yes	no	yes	no	yes	yes	no	Reimbursement	NA	EHR
(D. V. Williams et al., 2019)	no	no	yes	yes	yes	yes	yes	NA	HOOS, KOOS, PROMIS	EHR
(J. B. Williams et al., 2019)	yes	no	yes	no	yes	yes	no	NA	NA	EHR

TDABC, Time-drive activity-based costing; DRG, diagnosis-related group; EHR, electronic health records; HOOS, Hip Disability and Osteoarthritis Outcomes Score; KOOS, Knee Injury and Osteoarthritis Outcomes Score; SST, Simple Shoulder Test Score; ASES, American Shoulder and Elbow Surgeons Score; VAS, Visual Analog Scale; SANE, Single Assessment Numeric Evaluation; AMPAC, Activity Measure in Post-Acute Care; HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems; OHS, Oxford Hip Score; EQ-5D, EuroQol-5D; BAROS, Bariatric Analysis and Reporting Outcome System; ICHOM, International Consortium for Health Outcomes Measurement; HEDIS, Healthcare Effectiveness Data and Information Set; PF-CAT, Physical Function domain, delivered by Computerized Adaptive Testing; PROMIS, The Patient-Reported Outcomes Measurement Information System; SMFA, Short Musculoskeletal Function Assessment; ODI, Oswestry Disability Index; ASA, American Society of Anesthesiologists physical status classification; EORTC-QLQ-Core and BR23, European Organization for Research and Treatment of Cancer Quality of Life Questionnaire Core 30 and breast cancer specific module; RCS-NL, Reproductive Concerns Scale; CarerQoL, Care related quality of life.