

Supplementary Table 1: Applications of population adjustment in NICE Technology Appraisals. Superscripts in the covariates column indicate the subset of covariates selected using the approach detailed in the adjacent column.

Appraisal	Date published	Population adjustment method	Anchored or unanchored comparison	Clinical area	Outcome type	Covariates	How were covariates chosen?	MAIC effective sample size (%)	If available, how was a larger network dealt with?
TA510: Daratumumab monotherapy for treating relapsed and refractory multiple myeloma (17)	March 2018	MAIC	Unanchored	Oncology	Survival	refractory status ^{*†} , ECOG ^{*†} , prior treatments [*] , creatinine clearance [*] , time since diagnosis, myeloma subtype, race, bone lesions, prior ASCT, age	Using literature review and expert opinion, covariates ranked by importance then forward selected. MAICs performed into two target trials, the first adjusting for 4 covariates (*), the second for 2 covariates (†)	84 (57.8), 80 (54.1)	Stand-alone comparisons
TA500: Ceritinib for untreated ALK-positive non-small-cell lung cancer (18)	January 2018	MAIC	Unanchored	Oncology	Survival	age, gender, race, smoking status, adenocarcinoma, ECOG, metastatic disease, brain metastases	All baseline characteristics available in both trials	171 (90.4), 174 (92.1)	Stand-alone comparisons
TA492: Atezolizumab for untreated locally advanced or metastatic urothelial cancer when cisplatin is unsuitable (19)	December 2017	STC, MAIC	Unanchored	Oncology	Survival	age [*] , gender [*] , ECOG [*] , liver metastases [*] , number of prior therapies	STC selected covariates (*) to maximise cross-validated predictive performance. MAIC used all available covariates.	-	Active arms predicted for each study to connect the network, then analysed using NMA

Supplementary Table 1: (continued)

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TA462: Nivolumab for treating relapsed or refractory classical Hodgkin lymphoma (20)	July 2017	MAIC	Unanchored	Oncology	Survival, Response rate	age, gender, disease stage, B symptoms, haemoglobin, lymphocytes, white cell count, albumin, extranodal site, ECOG, tumour diameter, number of prior therapies	-	81 (42)	-
TA478: Brentuximab vedotin for treating relapsed or refractory systemic anaplastic large cell lymphoma (21)	October 2017	MAIC	Unanchored	Oncology	Survival	age, gender, elevated lactate dehydrogenase, disease stage, ECOG, response to primary therapy	All baseline characteristics available in both trials	4.8 (8.3)	-
TA457: Carfilzomib for previously treated multiple myeloma (22)	July 2017	MAIC	Unanchored	Oncology	Survival	age, ISS stage, time since diagnosis, creatinine clearance, number of prior therapies, prior SCT, prior bortezomib, prior IMiD, refractory to last therapy	Covariates identified as prognostic factors by UK clinical experts reported in both studies	335.5 (52)	-

Supplementary Table 1: (continued)

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TA449: Everolimus and sunitinib for treating unresectable or metastatic neuroendocrine tumours in people with progressive disease (23)	June 2017	MAIC	Anchored	Oncology	Survival	-	-	-	-
TA451: Ponatinib for treating chronic myeloid leukaemia and acute lymphoblastic leukaemia (24)	June 2017	MAIC	Unanchored	Oncology	Response rate, Duration	age, gender, T315I mutation, race, duration of disease, ECOG	All baseline characteristics available in both trials	69 (25.8)	-
TA432: Everolimus for advanced renal cell carcinoma after previous treatment (25)	February 2017	MAIC	Unanchored	Oncology	Survival	-	-	-	-

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TA429: Ibrutinib for previously treated chronic lymphocytic leukaemia and untreated chronic lymphocytic leukaemia with 17p deletion or TP53 mutation (26)	January 2017	MAIC	Unanchored	Oncology	Survival	17p deletion status, number of prior therapies, purine refractory status, age, binet/RAI, IGVH status, beta2-microglobulin, del 11q, creatinine clearance, platelets, gender, haemoglobin, lymphocytes	All clinically relevant baseline characteristics available in both trials, reviewed by clinical experts	30 (15.4)	Stand-alone comparisons
TA427: Pomalidomide for multiple myeloma previously treated with lenalidomide and bortezomib (27)	January 2017	MAIC	Unanchored	Oncology	Survival	age, ECOG, number of prior therapies, prior thalidomide	-	-	Other single-arm IPD sources used for additional stand-alone comparisons
TA410: Talimogene laherparepvec for treating unresectable metastatic melanoma (28)	September 2016	Prediction model	Unanchored	Oncology	Survival	gender, ECOG, visceral status, brain metastases, LDH	Modification of published prediction model (Korn model)	-	-

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TA383: TNF-alpha inhibitors for ankylosing spondylitis and non-radiographic axial spondyloarthritis (29)	February 2016	MAIC, STC	Anchored	Rheumatology	Change from baseline	gender, race, age, concomitant DMARD, concomitant NSAID, HLA-B27, BASDAI, BASFI, ASDAS, CRP	All baseline characteristics available in both trials	-	Stand-alone comparisons
TA380: Panobinostat for treating multiple myeloma after at least 2 previous treatments (30)	January 2016	MAIC	Unanchored	Oncology	Survival	age, gender, time since diagnosis, ECOG, number of prior therapies, prior thalidomide, prior bortezomib, prior stem cell transplant, beta2-microglobulin	All baseline characteristics available in both trials	137 (35.4), 23 (5.9)	Network of studies available, MAIC used to target single comparison
TA364: Daclatasvir for treating chronic hepatitis C (31)	November 2015	MAIC	Unanchored	Hepatology	Rate	age, BMI, race, gender, HCV genotype, plasma HCV RNA, fibrosis staging, IL28B genotype, platets, ALT, previous treatment	All baseline characteristics available in both trials One MAIC only had sufficient sample size to adjust for one covariate (HCV RNA)	-	Unclear

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TA331: Simeprevir in combination with peginterferon alfa and ribavirin for treating genotypes 1 and 4 chronic hepatitis C (32)	February 2015	MAIC	Unanchored	Hepatology	Rate	fibrosis score, viral load, BMI, age, gender	-	15 (14)	Stand-alone comparisons
TA333: Axitinib for treating advanced renal cell carcinoma after failure of prior systemic treatment (33)	February 2015	STC	Unanchored	Oncology	Survival	gender, age*, nephrectomy status, previous radiotherapy, previous cytokine therapy, MSKCC* [†] , clear cell carcinoma, ECOG, time on subitinib [†]	Significant predictors of outcome in regression model ($p < 0.1$) for PFS (*) and OS ([†])	-	-
TA311: Bortezomib for induction therapy in multiple myeloma before high-dose chemotherapy and autologous stem cell transplantation (34)	April 2014	MAIC	Unanchored	Oncology	Response rate	ISS stage, beta2-microglobulin, cytogenetic abnormality t4, age, gender, light chain myeloma, IG-A, IG-D, IG-G	-	-	Network of studies available, MAIC used to target single comparison