Additional Analyses requested post consultation July 2015

Produced by ScHARR, University of Sheffield

Authors Matt Stevenson, Professor of Health Technology Assessment, ScHARR

Background

Following the release of the Appraisal Consultation Document NICE invited consultees and commentators to provide comment. These comments included requests for the Assessment Group to run additional scenarios: this document attempts to address these comments. It is recommended that this document is read in conjunction with the most recent Assessment Group documents which will provide additional details that have been omitted from this document for conciseness.

The additional analyses undertaken include

1) Estimating the incremental cost effectiveness ratios (ICERs) for patients who have the fastest rate of HAQ progression who receive bDMARD monotherapy.
2) Estimating the impact on the ICER for infliximab when applying a [redacted] discount associated with biosimilars
3) Estimating the ICERs for patients receiving bDMARD monotherapy if rituximab was used outside the marketing authorisation after the first bDMARD. An example treatment strategy would therefore be adalimumab, rituximab, etanercept and sulfasalazine. Note that the assumed efficacy of rituximab plus MTX was used in this analysis, which is likely to produce favourable results to bDMARDs .

Summary results are provided in Tables 1-3, with more detailed results for analyses 1 provided in Tables 4 to 7, and more detailed analyses for analyses 3 in Tables 8 to 11

Table 1: Summary of median ICERs for a severe, MTX-experienced, RA population who are treated with monotherapy

	Base Case	Treating those with the fastest HAQ progression	Treating those with the fastest HAQ progression and assuming HAQ progression in classes 3 and 4 beyond 15 years		Base Case	Treating those with the fastest HAQ progression	Treating those with the fastest HAQ progression and assuming HAQ progression in classes 3 and 4 beyond 15 years
Population 2 (severe MTX – experienced)	£48,300	£29,000	£27,700	Population 3 (moderate MTX-experienced)	£58,800	£32,800	£30,000

All numbers rounded to the nearest £100

Table 2: Summary of Infliximab ICERs in a severe, MTX-experienced, RA population who can receive MTX once a [redacted] discount for biosimilars is assumed

	Base Case	Treating those with the fastest HAQ progression		Base Case	Treating those with the fastest HAQ progression
Population 2 (severe MTX –experienced)	£30,445	£18,130	Population 3 (moderate MTX- experienced)	£37,658	£20,462

Table 3: Summary of median ICERs assuming RTX is used after the first biologic for a severe, MTX-experienced, RA population who are treated with monotherapy

	Base Case	Treating those with the fastest HAQ progression		Base Case	Treating those with the fastest HAQ progression
Population 2 (severe MTX –experienced)	£41,600	£25,700	Population 3 (moderate MTX- experienced)	£49,800	£29,100

All numbers rounded to the nearest £100

The individual results for analyses 1.

Table 4: Base case results – severe, MTX-experienced, RA population with the fastest rate of HAQ progression who are treated with monotherapy

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ADA	[redacted]	[redacted]	£ 29,044	Ext Dominated
ETN	[redacted]	[redacted]	£ 29,336	Ext Dominated
TCZ	[redacted]	[redacted]	£ 28,296	£ 28,296

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

Table 5: Base case results – moderate, MTX-experienced, RA population with the fastest rate of HAQ progression who are treated with monotherapy

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ADA	[redacted]	[redacted]	£ 33,005	Ext Dominated
ETN	[redacted]	[redacted]	£ 32,313	£ 32,313
TCZ	[redacted]	[redacted]	£ 32,806	£ 37,123

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

Table 6: Base case results – severe, MTX-experienced, RA population with the fastest rate of HAQ progression who are treated with monotherapy and assuming continued HAQ progression in latent classes 3 and 4

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ADA	[redacted]	[redacted]	£ 27,717	Ext Dominated
ETN	[redacted]	[redacted]	£ 28,068	Ext Dominated
TCZ	[redacted]	[redacted]	£ 27,121	£ 27,121

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

Table 7: Base case results – moderate, MTX-experienced, RA population with the fastest rate of HAQ progression who are treated with monotherapy and assuming continued HAQ progression in latent classes 3 and 4

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ADA	[redacted]	[redacted]	£ 30,053	Ext Dominated
ETN	[redacted]	[redacted]	£ 30,027	Ext Dominated
TCZ	[redacted]	[redacted]	£ 29,703	£ 29,703

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

The individual results for analyses 3.

Table 8: Base case results – severe, MTX-experienced, RA population who are treated with monotherapy with rituximab monotherapy used after the first bDMARD

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ADA	[redacted]	[redacted]	£ 41,628	Ext Dominated
ETN	[redacted]	[redacted]	£ 41,575	Ext Dominated
TCZ	[redacted]	[redacted]	£ 42,516	£ 51,011

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

Table 9: Base case results – severe, MTX-experienced, RA population with the fastest rate of HAQ progression who are treated with monotherapy with rituximab monotherapy used after the first bDMARD

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ADA	[redacted]	[redacted]	£ 25,426	£ 25,426
ETN	[redacted]	[redacted]	£ 25,657	Ext Dominated
TCZ	[redacted]	[redacted]	£ 26,312	£ 35,177

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

Table 10: Base case results – moderate, MTX-experienced, RA population who are treated with monotherapy with rituximab monotherapy used after the first bDMARD

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ETN	[redacted]	[redacted]	£ 49,756	£ 49,756
ADA	[redacted]	[redacted]	£ 49,843	Ext Dominated
TCZ	[redacted]	[redacted]	£ 50,954	£ 60,955

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly

Table 11: Base case results – moderate, MTX-experienced, RA population with the fastest rate of HAQ progression who are treated with monotherapy with rituximab monotherapy used after the first bDMARD

First Intervention in the strategy	Discounted Costs	Discounted QALYs	CPQ compared with MTX strategy	Incremental CPQ
SSZ	[redacted]	[redacted]	-	-
ETN	[redacted]	[redacted]	£ 29,104	Ext Dominated
ADA	[redacted]	[redacted]	£ 28,982	£ 28,982
TCZ	[redacted]	[redacted]	£ 30,020	£ 39,418

ADA – adalimumab; ETN – etanercept; SSZ – sulfasalazine; TCZ – tocilizumab
CPQ – cost per QALY gained. Ext - extendedly