Disparities in new drug recommendations: A comparative analysis between NICE and the SMC

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01 BACKGROUND

- Health inequity, defined as unfair, avoidable differences in health outcomes between population groups,[1] can result in higher rates of preventable diseases and reduced life expectancy.[2]
- In addition to social determinants, health inequities can also arise from geographic disparities in access to medicines.[3]
- Variations in health technology assessment (HTA) recommendations can contribute to unequal access to treatments across different countries and regions.[3]
- Factors driving differences in HTA recommendations include variations in reimbursement and pricing processes, agency mandates, decision-making frameworks, societal preferences, and evidence requirements for reimbursement.[3]
- In the United Kingdom, the National Institute for Health and Care Excellence (NICE) in England and the Scottish Medicines Consortium (SMC) in Scotland have distinct processes,[4] which may lead to variations in recommendations. **Table 1** provides a comparison of the key drug assessment criteria and processes between NICE and the SMC.

Table 1: Key drug assessment criteria/processes: NICE versus SMC

	NICE (TA programme)	SMC
Scope	All newly licensed medicines and established medicines with a significant* new therapeutic indication[5]	All newly licensed medicines and established medicines with any new indication†[6]
Timelines	40–60 weeks[4]	18–26 weeks[4]
Cost-effectiveness assessment	Yes[4]	Yes[4]
WTP threshold	20-30k per QALY[4,7]	No formal threshold§[8]
Modifiers	Severity modifier¶[4] (formerly EOL criteria)	Six modifiers#[4]
Budget impact	Only if medicine expected to exceed >£20m/yr[4]	All submissions (including abbreviated submissions†)[9]
Patient access schemes	Yes (simple discount preferred)[10]	Yes (simple discount preferred)[11]
Managed access	Yes – CDF and IMF[12]	No
Recommendations	Mandatory (implementation legally required)[4]	Advisory[4]

CDF, Cancer Drugs Fund; EOL, end-of-life; ICER, incremental cost-effectiveness ratio; IMF, innovative medicines fund; NHS, National Health Service; NICE, National Institute for Health and Care Excellence; QALY, quality-adjusted life year; SMC, Scottish Medicines Consortium; TA, technology appraisal; WTP, willingness-to-pay
*Examples of non-significant changes include: changes to the dose, formulation or administration that will not significantly affect the clinical and cost effectiveness of the medicine, appropriate access to the medicine is provided by an existing policy, there is a very limited patient population (so NICE guidance would not provide value for the NHS), or it is appropriate to assess the medicine within a NICE guideline (for example, a new medicine within an existing class)
†Medicines may be assessed through an abbreviated submission process if the anticipated budget impact of the medicine is low or if it demonstrates similar clinical effectiveness to another therapy[6]
§However, companies are required to demonstrate (through sensitivity analyses) the circumstances under which the ICER exceeds £20k and £30k
¶The QALY weightings for severity are applied based on absolute and proportional shortfall, whichever implies the greater severity level[13]
#Based on: evidence of a substantial improvement in life expectancy and/or quality of life, evidence that a sub-group of patients my derive a specific or extra benefit, absence of other therapeutic options, possible bridging to definitive therapy (e.g., curative surgery)[4]

02 OBJECTIVE

- This study aimed to identify disparities in new drug recommendations made by England's NICE and Scotland's SMC.

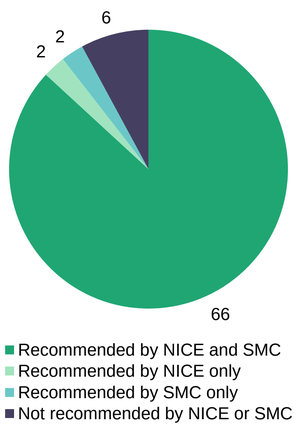
03 METHODS

- New drug appraisals published on the NICE (Technology Appraisal [TA] only) and SMC websites from 01.06.2023 to 31.05.2024 were reviewed.
- Drug, indication, recommendation (including decision driver) and date were recorded.
- For each record, the other agency website was searched with no timeframe for a matching appraisal by drug/indication.
- Recommendation and publication date of the resulting matched pairs were compared.

04 RESULTS

Of the 76 drugs appraised by both agencies, 66 (87%) were recommended by both agencies, 6 (8%) were not recommended by either, and 4 (5%) were recommended by one agency and not the other.

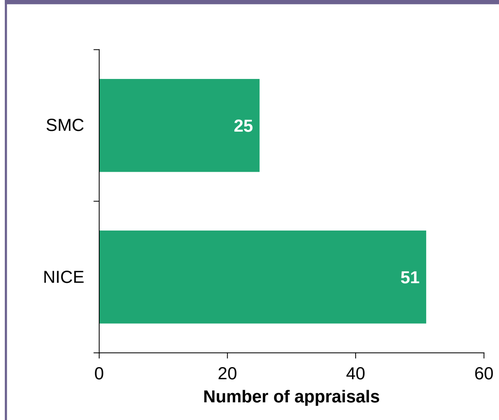
Figure 1: Outcomes of drug appraisals* completed by NICE and the SMC**



*drugs eligible for the NICE TA and SMC appraisal pathways; **during the study timeframe, 01/06/2023-31/05/2024
NICE, National Institute for Health and Care Excellence; SMC, Scottish Medicines Consortium; TA, Technology Appraisal

Appraisals were more often completed by NICE first; 51 [67%] completed by NICE first, mean difference [MD] 7.8 months vs 25 [33%] completed by SMC first, MD 16.1 months).

Figure 2: Number of drug appraisals* completed first by agency**



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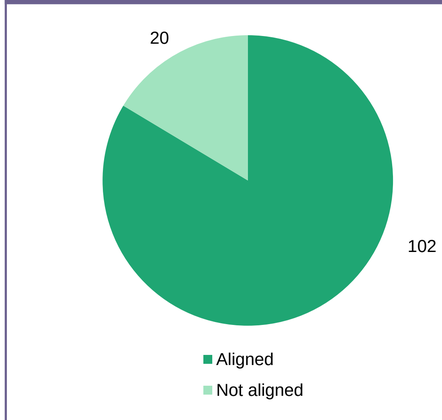
Of the 122 drugs appraised by at least one agency, 102 (84%) had aligned outcomes across both agencies.

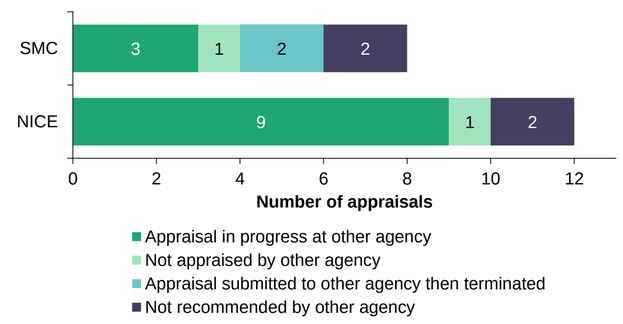
Figure 3: Alignment of new drug* recommendations across NICE and the SMC**



*drugs eligible for the NICE TA and SMC appraisal pathways;
**during the study timeframe, 01/06/2023-31/05/2024
NICE, National Institute for Health and Care Excellence; SMC, Scottish Medicines Consortium; TA, Technology Appraisal

At the end of the of the study timeframe, 12 (10%) drugs were recommended by NICE but not by the SMC (9 were under SMC review; 1 was not reviewed by SMC; 2 were reviewed by SMC but not recommended), and 8 (7%) drugs were recommended by the SMC but not by NICE (3 were under NICE review; 3 were not reviewed by NICE; 2 were reviewed by NICE but not recommended)

Figure 4: Reasons for misalignment of new drug* recommendations across NICE and the SMC**



*drugs eligible for the NICE TA and SMC appraisal pathways;
**during the study timeframe, 01/06/2023-31/05/2024
NICE, National Institute for Health and Care Excellence; SMC, Scottish Medicines Consortium; TA, Technology Appraisal

Four (3%) drugs were appraised by both agencies but were only given a positive recommendation from one of them. The decision drivers are highlighted in **Table 2**:

Table 2: Reasons for difference in recommendation between NICE and SMC*

		NICE		SMC	
Drug	**Indication**	**Decision**	**Decision drivers**	**Decision**	**Decision drivers**
Axicabtagene ciloleucel (Yescarta)	Relapsed or refractory B-cell lymphoma	Recommended for use in CDF with MAA†	Despite meeting EOL criteria, the CE estimates were considered too high given the uncertainty in the survival estimates and how generalisable the results were to NHS practice	Not recommended	The company's justification of axicabtagene ciloleucel's cost in relation to its health benefits was not sufficient to gain acceptance by SMC
Dupilumab (Dupixent)	Moderate-to-severe prurigo nodularis	Not recommended	The trial results and the CE estimates were uncertain and may not be generalisable to the NHS, as the BSC used in the trial are not usually used in the NHS	Recommended with PAS	As dupilumab is an orphan equivalent medicine, SMC could accept greater uncertainty in the economic case
Pegunigalsidase alfa (Elfabrio)	Fabry disease	Recommended with PAS	Economic evidence suggested that pegunigalsidase alfa is cost saving when compared with the other enzyme replacement therapies and migalastat	Not recommended	Uncertainty in CUA regarding treatment effect and generalisability, as there was limited comparative clinical evidence
Tafamidis (Vyndaqel)	Transthyretin amyloidosis with cardiomyopathy	Not recommended	CE estimates were higher than what NICE normally considers an acceptable use of NHS resources	Recommended with PAS	SMC could accept greater uncertainty in the economic case as tafamidis is an orphan medicine and provides substantial improvement in life expectancy and QoL in the absence of other treatments of proven benefit

BSC, best supportive care; CDF, Cancer Drugs Fund; CE, cost-effectiveness; CUA, cost-utility analysis; EOL. End-of-life; MAA, managed access agreement; NHS, National Health Service; NICE, National Institute for Health and Care Excellence; PAS, patient access scheme; SMC, Scottish Medicines Consortium
*data cut-off 31/05/2024 †the managed access agreement includes a patient access scheme and a commercial access agreement

05 DISCUSSION AND CONCLUSIONS

- **Although 84% of recommendations were aligned, variations in appraisal processes, evaluation criteria (including the application of modifiers), and timelines contributed to differences between the agencies.**
- **Manufacturers also contributed to access disparities through the timing of submissions and decisions to terminate appraisals.**
- **Despite the longer timelines associated with the NICE appraisal process compared to the SMC, over two-thirds of the drugs reviewed in this study were assessed by NICE prior to SMC, with more drugs appraised by NICE overall by the end of the study period.**
- **For drugs appraised by both agencies, differences in recommendations were primarily driven by variations in cost-effectiveness thresholds or the perceived acceptability of uncertainty in the cost-effectiveness analysis. Specifically, some divergences were linked to SMC's use of the orphan equivalent designation modifier, which permits greater uncertainty in the economic case or a higher cost per QALY.**
- **To minimise disparities in access to medicines, greater alignment between agencies in submission timelines and evaluation criteria is needed.**

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