

A Critical Review of the Screening Criteria Ratings and Recommendations by the UK National Screening Committee (NSC) for Adult Conditions

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BACKGROUND

- UK NSC has been assessing proposed screening programmes based on 20 criteria, but there has been no systematic examination of how proposed programmes meet the criteria.
- Theoretically, all 20 criteria should be met prior to recommending a screening programme. However, UK NSC reports shows that not all criteria are assessed.

STUDY OBJECTIVE

- To examine the extent to which adult health conditions met the population screening criteria, and how criteria ratings have changed over time.

METHODS

- Using a bespoke form, we extracted data from public documents on UK NSC website and archive (URL below).
- For each health condition, the number of criteria not applicable or not assessed were identified. Among those assessed, we tabulated the percentage times the criteria were met (M), partly met (PM), unmet (UM), or uncertain (UC). For conditions with multiple assessments, we used the ratings from the latest assessment (Tables 1 & 2).
- To examine how criteria ratings changed over time, we identified conditions with multiple assessments and tabulated their criteria ratings in each assessment. Criteria ratings were considered to have deteriorated if ratings moved in the following order - Met > Partly Met > Uncertain > Unmet from one assessment to another, or otherwise improved.

RESULTS*

- Of the 34 adult conditions assessed, 6 were recommended for population screening, 23 were not, and 5 were dropped (Figure 1).
- Between 2006-2024, these conditions were assessed 2.2 times on average (Figure 2); most (45%) had 5-10 years between assessments (Figure 3).
- Public documents containing ratings were available for 30 conditions. Each condition had 1-18 criteria assessed, 10 in average (table 1)
- Criteria 1 (epidemiology), 4 (simple, safe, precise and validated test), 5 (agreed cut-off), 9 (effective intervention for those diagnosed), and 11 (evidence from randomised trials) were the most frequently assessed (Table 2).
- However, the trend varied depending on whether screening was recommended, or if a modification was considered.
- Of 517 instances the criteria were rated, ratings changed 44 times (8.5%), improved in 17 instances but deteriorated in 27 (Table 3).
- Criterion 1 changed the most often (4 improvements and 5 deteriorations) (Table 3).

CONCLUSION & POLICY IMPLICATIONS

- NSC review process is long and resource-intensive - reflects the slow process of generating criteria-addressing evidence and stringency of the review process.
- The 20 population screening criteria carry unequal weights in NSC review process. Prior to recommending a screening programme, five criteria - 1, 4, 5, 9, and 11 were assessed more frequently and persistently than others.
- Our findings highlight potential opportunities for UK NSC to improve its review process, including self-assessment of key criteria for new screening programme proposal, use of the same cost-effectiveness models when evaluating programme modifications, and standardisation of NSC reports. Where possible, documentations of criteria and their ratings should be standardised in upcoming assessments, to improve transparency of the review process.

HIGHLIGHTS

Each health condition may undergo up to 5 assessments, each 5-15 years apart*

The 20 UK NSC criteria carry unequal weights; NSC assessed some more frequently vs others*

FIGURES & TABLES

Figure 1. Recommendation status

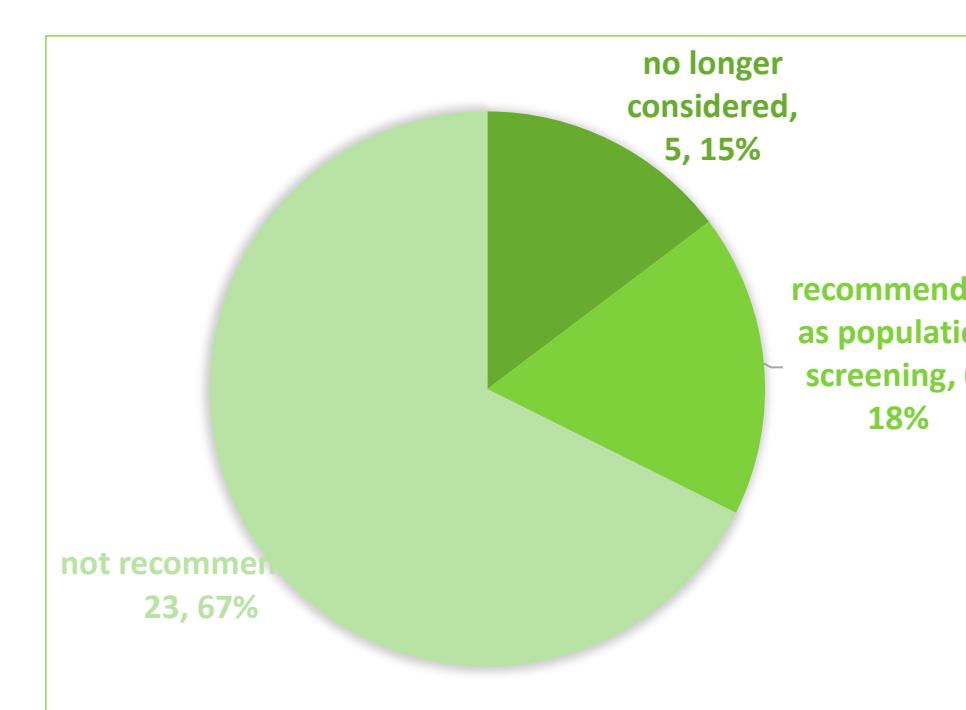


Figure 2. Number of assessments

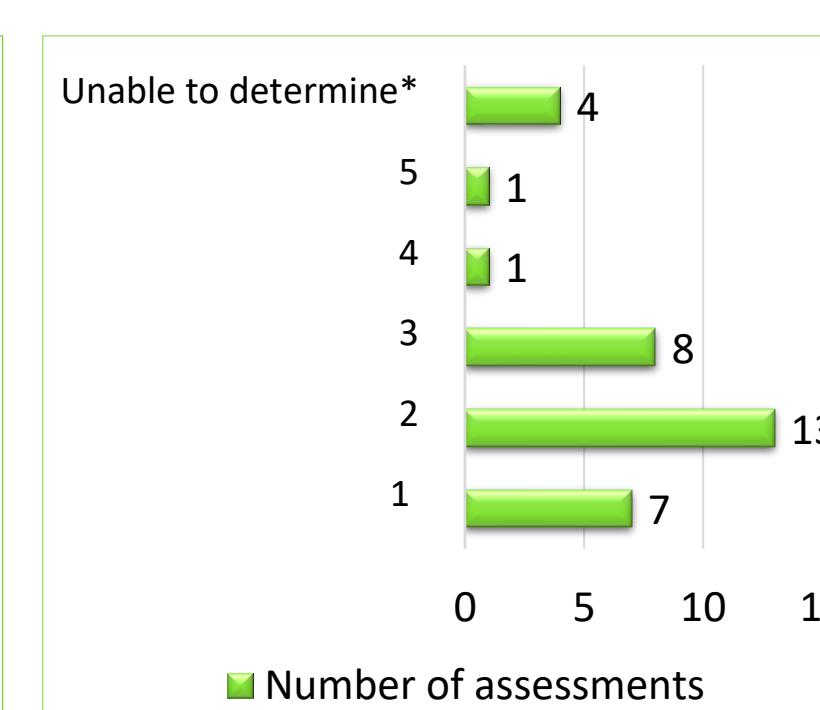


Figure 3. Median years between assessments

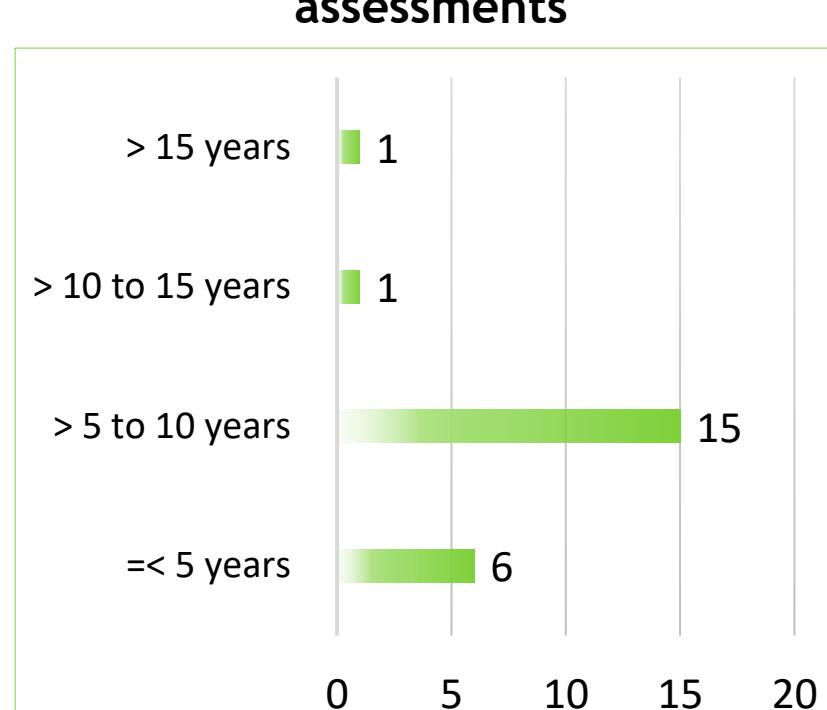


Table 1. Percentage criteria met (%M), partly met (%PM), unmet (%UM), uncertain (%UC) for 30 adult health conditions

Health conditions	Total Criteria (n=20)		Ratings for Criteria Assessed				
	Not Applicable	Not Assessed	%M	%PM	%UM	%UC	
Recommended for screening, before / without modifications (n = 4)	0.5	13.3	6.3	77.0	6.7	2.5	13.8
Recommended for screening, with modifications accepted (n = 3)	-	15.9	4.1	44.4	1.6	9.9	44.0
Recommended for screening, with modifications not accepted (n = 3)	-	15.7	4.3	20.8	-	54.2	25.0
Not recommended for screening (n = 24)	1.2	5.8	12.8	21.0	5.8	66.1	7.0
Overall Average	0.8	9.2	10.0	31.2	4.7	48.1	16.0

Figure 4. List of the 20 UK NSC criteria for screening program

The Condition
Criteria 1 Epidemiology and natural history understood.
Criteria 2 Primary prevention implemented
Criteria 3 Natural history among those with genetic mutation understood
The Test
Criteria 4 Simple, safe, precise, validated test
Criteria 5 Cut-off for test agreed
Criteria 6 Test acceptable
Criteria 7 Diagnostic policy agreed
Criteria 8 Selection of genetic variants for test kept under review
The Intervention
Criteria 9 Effective intervention for those diagnosed
Criteria 10 Policy on target patients and interventions agreed
The Screening Programme
Criteria 11 Evidence from RCT
Criteria 12 Acceptable programme
Criteria 13 Benefits outweighs harms
Criteria 14 Opportunity cost
Implementation Criteria
Criteria 15 Optimised management prior to screening participation
Criteria 16 Other management options.
Criteria 17 Quality assurance
Criteria 18 Staffing and facilities adequate
Criteria 19 Information for potential participants
Criteria 20 Anticipating public pressure.

Table 2. Criteria ratings for 30 adult health conditions

Criteria	Recommended			Not Recommended			
	No Modification (n _a =8)	Modification Accepted (n _a =7)	Modification Not Accepted (n _a =5)	(n _a =24)	A	M	%M
1	3	3	100	3	3	100	2
2	0	0	0	1	1	100	0
3	0	0	0	0	0	0	0
4	3	3	100	2	2	100	2
5	2	2	100	3	2	66.7	1
6	1	0	0	1	1	100	1
7	0	0	0	1	1	100	0
8	0	0	0	0	0	0	0
9	1	1	100	1	1	100	2
10	2	2	100	1	1	100	0
11	3	3	100	2	2	100	1
12	2	1	50	1	0	0	0
13	2	1	50	2	2	100	2
14	2	2	100	7	4	57.1	1
15	1	0	0	0	0	0	0
16	1	0	0	0	0	0	0
17	0	0	0	0	0	0	0
18	1	0	0	3	0	0	10
19	1	0	0	1	0	0	0
20	0	0	0	0	0	0	0

A: Assessed; M: Met; %M: Percentage criteria met, among those assessed

Table 3. Criteria that changed between assessments

Criteria	Number of times rating improved	Number of times rating deteriorated	Total times ratings changed
1	4	5	9
2	1	-	1
3	-	-	-
4	2	2	4
5	-	3	3
6	-	1	1
7	-	1	1
8	-	-	-
9	1	2	3
10	1	4	5
11	1	-	1
12	-	2	2
13	-	2	2
14	4	-	4
15	3	2	5
16	-	1	1
17	-	-	-
18	-	1	1
19	-	1	1
20	-	-	-
Total	17	27	44