Reducing the resources required for guideline searches and selection[1]

EXTRACT

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Executive summary

Within the scope of the general commission, the topic of reducing the resources required for guideline searches and selection was addressed.

Research questions

The aim of this analysis is to evaluate ways of optimising the process of guideline searches and selection in order to increase the efficiency of information retrieval for projects.

The following research questions are addressed:

1) To what extent can the number of guidelines to be included be reduced by applying stricter requirements to the evidence-based guidelines to be included, without losing relevant information for the DMP reports?
2) Taking into account the stricter guideline requirements from research question (RQ) 1 and the additional selection of particularly suitable information sources, can the number of information sources be reduced without any relevant loss of information, while balancing the resources required against the benefits achieved?

Methods

Research question 1

Based on 4 DMP reports on the topics of coronary heart disease, depression, heart failure and obesity, the effects of stricter requirements for guideline inclusion on the resources required for report preparation and on the information content of the reports were examined. This was on the one hand assessed based on the size of the guideline pool to be included. On the other hand, it was based on the number of identified discrepancies in 3 reports for updating a DMP or the number of identified items on relevant and additional content in a report for developing a new DMP.

The guidelines that met the stricter requirements and were substantively relevant to the respective DMP report formed the data pool for RQ 2.

Research question 2

Criteria were defined that the information sources should meet. Based on these criteria, particularly suitable information sources were selected that are known to provide the broadest possible coverage of international and multi-disciplinary guidelines and to offer advanced search functionalities.

The following steps were undertaken:

- Determination of the coverage of the information sources for these guidelines or combinations of information sources.
- Identification of the guidelines that could not be identified by the respective combination of information sources examined.
- Assessment of the reasons or characteristics as to why these guidelines could not be found.

If coverage was too low, the criteria could be adjusted and additional information sources included.

It was examined whether the relevance of the unidentified guidelines to the conclusions of the report justified the additional resources required to conduct further searches in additional information sources.

In a further step, recall was assessed using an example project. That is, it was checked whether all guidelines of the DMP could be identified in a realistic search.

Results

Research question 1

The data pool for RQ 1 comprised 71 guidelines: 46 guidelines from the update reports and 25 guidelines from the report on the development of a new DMP.

Overall, applying the stricter requirements reduced the guideline pool to be included in the update reports by 39% and the number of recommendations by 38%. Furthermore, applying the stricter requirements reduced the number of identified discrepancies by 20%.

For the report on the development of a new DMP, applying the stricter requirements reduced the guideline pool to be included by 48%, the number of items on potentially relevant content by 19%, and the number of items on additional content by 3%.

If the number of guidelines to be included and the number of extracted recommendations are considered a surrogate for the resources required for report preparation, these resources were substantially reduced by applying the stricter requirements. If the number of discrepancies or of items on potentially relevant and additional content is considered a surrogate for relevant information, these numbers did not decrease to the same extent as the guideline pool or the resources required for report preparation. Moreover, it can be assumed that recommendations from guidelines that do not meet stricter inclusion criteria do not result in a relevant loss of information for DMP development, given their insufficient evidence base.

Research question 2

The criteria examined for the information sources covered the data scope, the availability and provision of guidelines, search functionalities, export options, and the creation of references in a reference management programme. In the overall assessment, all information sources were rated as 'good' or 'acceptable'. Further aspects (e.g. the resources required for searching) indicated that a search in ECRI[2] should be prioritised and that it should in turn be examined whether searches in the sources PubMed, Guidelines International Network (GIN), UpToDate and Trip could be omitted.

In the next step, the coverage provided by different combinations of information sources was determined. The information sources SIGN[3] and WHO[4] did not contain any of the guidelines. The highest coverage was achieved by the combination of the guideline databases ECRI, GuidelineCentral and Trip with the multidisciplinary guideline providers AWMF[5] and NICE[6]. As all guidelines included in UpToDate and GIN were also identified using the selected combination, these information sources can be omitted. Due to the high number of hits obtained from PubMed searches, this information source was not included in the analysis.

The 2 guidelines that were not identified using the combination of information sources had no impact on the conclusions of the DMP reports on depression and heart failure.

Using the DMP project on coronary heart disease as an example, it was established that all guidelines can be identified through a realistic search using the above-mentioned combination of information sources and the search terms defined for the DMP project.

Conclusion

The analysis showed that the examined approaches to reducing the resources required for guideline searches and selection for DMP reports are feasible without any relevant loss of information.

A systematic, focused search for guidelines in ECRI, GuidelineCentral, the Trip database, AWMF and NICE appears to be sufficient. In addition, as a safeguard, a cursory check can be conducted via a generic internet search using Google or Google Scholar.

Furthermore, it is sufficient to include guidelines only if they meet the following requirements: a standardised Domain 3 score of at least 30% in AGREE II, no guidelines adopted or adapted

[2] formerly the Emergency Care Research Institute

[3] Scottish Intercollegiate Guidelines Network

[4] World Health Organization

[5] (German) Association of the Scientific Medical Societies)

[6] National Institute for Health and Care Excellence

from guidelines already included, a thematic focus on the disease of interest, and transparent information on a systematic literature search.

Table of contents

Page

Executive summary ..... **iv**
List of tables ..... **x**
List of abbreviations ..... **xi**
1 Background **1**
2 Research questions **2**
3 Course of the project **3**
4 Methods **4**
4.1 Research question 1 ..... **4**
4.1.1 Information retrieval 4
4.1.2 Information assessment 4
4.1.3 Information synthesis and analysis 5
4.2 Research question 2 ..... **5**
4.2.1 Data pool for the review of information sources 5
4.2.2 Assessment of information sources for guidelines 5
4.2.3 Results of the analyses on the coverage of suitable information sources 6
5 Results **7**
5.1 Research question 1 ..... **7**
5.1.1 Results of information retrieval 7
5.1.2 Results of information assessment 8
5.1.3 Results of information synthesis and analysis 27
5.1.3.1 V22-04 DMP ‘Coronary heart disease’ 27
5.1.3.2 V22-01 ‘Depression’ 29
5.1.3.3 V20-05 ‘Heart failure’ 30
5.1.3.4 V21-05: Development of the new DMP ‘Obesity – Adults’ 32
5.1.3.5 Summary: Data pool for research question 2 35
5.2 Research question 2 ..... **42**
5.2.1 Data pool for the review of information sources 42
5.2.2 Assessment of information sources for guidelines 42
5.2.3 Results of the analyses on the coverage of suitable information sources 43

6 Discussion 47
7 Conclusion 50
8 References 51
Appendices 60
Appendix D: Search strategies 61
Appendix E: Coverage of further combinations of information sources 65

List of tables

Page

Table 1: Overview of the number of recommendations and discrepancies in the update reports 7
Table 2: Overview of the number of recommendations, potentially relevant content and additional content in report V21-05 for the development of the DMP 'Obesity' 7
Table 3: V22-04 'Coronary heart disease': Included guidelines – assessment of relevance 9
Table 4: V22-01 'Depression': Included guidelines – assessment of relevance 14
Table 5: V20-05 'Heart failure': Included guidelines – assessment of relevance 18
Table 6: V21-05 'Obesity – Adults': Included guidelines – assessment of relevance 22
Table 7: V22-04 'Coronary heart disease': Number of recommendations and discrepancies per healthcare aspect 28
Table 8: V22-01 'Depression': Number of recommendations and discrepancies per healthcare aspect 30
Table 9: V20-05 'Heart failure': Number of recommendations and discrepancies per healthcare aspect 32
Table 10: V21-05 'Obesity – Adults': Number of recommendations and of potentially relevant and additional content per healthcare aspect 34
Table 11: Update reports: Number of recommendations and discrepancies in the respective report and following the application of the stricter requirements for guideline inclusion 35
Table 12: Report on the development of the new DMP 'Obesity – Adults' [4]: Number of recommendations, potentially relevant content and additional content following the application of the stricter requirements for guideline inclusion 36
Table 13: Guidelines that meet the stricter requirements and were relevant in terms of content to the respective DMP report 37
Table 14: Assessment of information sources for guidelines 42
Table 15: Coverage of information sources 44
Table 16: Coverage of combinations of information sources 45

List of abbreviations

Abbreviation	Meaning
AAFP	American Academy of Family Physicians
ADA	American Diabetes Association
ADAA	Anxiety and Depression Association of America
AGA	American Gastroenterological Association
AGREE	Appraisal of Guidelines for Research and Evaluation
ATS	American Thoracic Society
AWMF	Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften e. V. (Association of the Scientific Medical Societies)
CCS	Canadian Cardiovascular Society
DGPR	Deutsche Gesellschaft für Prävention und Rehabilitation von Herz-Kreislauferkrankungen (German Society for the Prevention and Rehabilitation of Cardiovascular Diseases)
DMP	disease management programme
DMP-A-RL	DMP-Anforderungen-Richtlinie (DMP Requirements Directive)
ECRI	formerly the Emergency Care Research Institute
ESC	European Society of Cardiology
G-BA	Gemeinsamer Bundesausschuss (Federal Joint Committee)
GIN	Guidelines International Network
GoR	Grade of Recommendation
IQWiG	Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen (Institute for Quality and Efficiency in Health Care)
NICE	National Institute for Health and Care Excellence
RQ	research question

1 Background

Guidelines summarise recommendations for the care of patients with a specific clinical condition. Synopses of evidence-based guidelines are prepared to provide an overview of the key recommendations. The Institute for Quality and Efficiency in Health Care (IQWiG) is regularly commissioned by the Federal Joint Committee (G-BA) to produce such guideline synopses. These serve as a basis for the development and updating of structured treatment programmes for people with chronic conditions, known as disease management programmes (DMPs) [1].

Currently, comprehensive searches are conducted across a wide range of information sources to prepare guideline synopses. Guideline databases and websites of multidisciplinary and specialty-specific guideline providers are routinely consulted. For example, for project V23-05 on the DMP for rheumatoid arthritis [2], 16 guidelines and a total of 290 recommendations were included in the analysis. The search was conducted across 7 guideline databases, 17 multidisciplinary guideline providers and 40 specialty-specific guideline providers. This approach requires a considerable investment of time and human resources.

2 Research questions

The aim of this analysis is to evaluate ways of optimising the process of guideline searches and selection in order to increase the efficiency of information retrieval for projects.

The following research questions are addressed:

1) To what extent can the number of guidelines to be included be reduced by applying stricter requirements to the evidence-based guidelines to be included, without losing relevant information for the DMP reports?
2) Taking into account the stricter guideline requirements from research question (RQ) 1 and the additional selection of particularly suitable information sources, can the number of information sources be reduced without any relevant loss of information, while balancing the resources required against the benefits achieved?

3 Course of the project

A working paper was prepared on the basis of an internal project outline. This report was submitted to the G-BA and published on the IQWiG website 4 weeks later.

4 Methods

The analysis was conducted in several steps. Based on the results from RQ 1, RQ 2 was then addressed.

4.1 Research question 1

4.1.1 Information retrieval

The data pool comprised the included guidelines from 4 completed DMP projects on heart failure (V20-05) [3], obesity (V21-05) [4], depression (V22-01) [5] and coronary heart disease (V22-04) [6]. This comprised a total of 71 guidelines. To update the relevant DMPs, a new commission to search for new and updated guidelines is expected to be issued in 2026/2027.

4.1.2 Information assessment

Firstly, the guidelines included in the DMP reports were assessed to determine whether they met the stricter requirements for the guidelines to be included.

These stricter requirements for the guidelines comprise:

- Details of the literature search: The database(s) searched are named, along with at least one of the following criteria:
  - the search terms used,
  - the search period, or
  - the search strategy.
- A standardised domain score of at least 30% for Domain 3 in AGREE II
- No guidelines adopted or adapted from those already included
- Thematic focus on the condition of interest

The first 2 requirements (literature search and AGREE appraisal) correspond to the current criterion ‘evidence-based’, which did not yet have to be met by the guidelines at the time the reports under investigation were prepared. In the present analysis, therefore, the guideline was assessed as “essential” only if both requirements were met. This means that these guidelines did not necessarily have to be identified via the focused guideline search in the present analysis. Furthermore, the relevance of the guidelines’ content to the update of the DMP Requirements Directive (DMP-A-RL) was examined.

4.1.3 Information synthesis and analysis

The information synthesis outlined which guidelines would no longer be included in the respective DMP reports due to the stricter requirements, and how many discrepancies were identified in the completed DMP reports based on these guidelines.

The extent to which the number of guidelines to be included would be reduced by means of the stricter requirements was examined. In this context, the number of guidelines to be included and the number of recommendations to be extracted in the analysis were regarded as a surrogate for the resources required for report preparation.

Furthermore, the extent to which relevant information is lost in the DMP reports due to the stricter requirements for the guidelines to be included was examined. The discrepancies identified in the respective guidelines were determined as a surrogate for the relevant information and assessed in terms of content.

The guidelines that met the stricter requirements and were relevant in terms of content to the respective DMP report formed the data pool for RQ 2.

4.2 Research question 2

4.2.1 Data pool for the review of information sources

The data pool comprised the guidelines identified on the basis of RQ 1.

4.2.2 Assessment of information sources for guidelines

As a first step, criteria were defined that information sources for guidelines should meet. A key criterion was the scope of the data, i.e. whether the information source included international or national guidelines. Another criterion was the availability and provision of guidelines. Specifically, when displaying search results, it was assessed whether clicking on the title (1) led to the PDF of the guideline, (2) led to the journal article, (3) led to the guideline provider's website, or (4) directly downloaded the PDF. A result was rated as 'good' if clicking on the title led to the journal article or the guideline provider; a direct download was rated as 'acceptable', as in this case, the reference has to be created manually.

Search functionalities, such as Boolean operators, truncation, phrase search and filtering options, were also assessed. The option to export search results as a RIS file, as well as the quality of the RIS file, was also examined. Further options for creating references in the reference management programme 'Zotero' were also examined. The focus here was on which bibliographic details are transferred to which fields. Information sources were rated as 'good' if they offered the option of reference creation using a standardised identifier (such as a DOI or PMID), as this ensures the quality of the references created in this way and reduces

the resources required. Finally, an overall assessment was made of the suitability of the information sources for a systematic search.

4.2.3 Results of the analyses on the coverage of suitable information sources

An analysis was carried out of the information sources for guidelines from the 4 completed DMP projects relating to data pool 1:

- Determination of the coverage of the information sources for these guidelines, or combinations of information sources, per project.
- Identification of the guidelines that could not be identified by the respective combination of information sources examined.
- Assessment of the reasons or characteristics as to why these guidelines could not be found.

For the selected information sources and their combinations, the proportion to which they contained the guidelines from the data pool (RQ 1) was assessed. If coverage was too low, the criteria could be adjusted and further information sources included.

It was examined whether the relevance of the unidentified guidelines to the conclusions of the report justified the additional resources required to conduct further searches in additional information sources.

In a further step, recall was assessed using a sample project. This involved checking whether a realistic search in the selected combination of databases, using the search terms defined at the time of the DMP project, could actually identify all the guidelines.

5 Results

5.1 Research question 1

5.1.1 Results of information retrieval

The analysis included 3 reports on the updating of a DMP: the DMP on heart failure (V20-05) [3], depression (V22-01) [5] and coronary heart disease (V22-04) [6], as well as a report for the development of the new DMP on obesity (V21-05) [4].

Table 1 provides an overview of the number of guidelines included in each update report, the number of recommendations extracted from the respective report, as well as the number of discrepancies between the guideline recommendations – with either a high grade of recommendation (GoR) or an exclusively unclear GoR within a healthcare aspect with a high level of evidence (LoE) – and the DMP-A-RL.

Table 1: Overview of the number of recommendations and discrepancies in the update reports

Report	Condition	Number of guidelines included	Number of recommendations extracted	Number of guidelines with discrepancies	Number of discrepancies
V22-04 [6]	Coronary heart disease	17	582	16	82
V22-01 [5]	Depression	15	608	11	57
V20-05 [3]	Heart failure	14	591	13	64

For the report on the development of the new DMP on obesity, Table 2 provides an overview of the number of guidelines included, the number of recommendations extracted for the respective report, as well as the number of items with potentially relevant content based on guideline recommendations with a high GoR and with additional content based on guideline recommendations with a GoR that is not high, but which, in the opinion of the external clinical adviser, are relevant to the development of a new DMP.

Table 2: Overview of the number of recommendations, potentially relevant content and additional content in report V21-05 for the development of the DMP 'Obesity' [4]

Number of guidelines included	Number of recommendations	Number of guidelines with potentially relevant content	Number of items with potentially relevant content	Number of guidelines with additional content	Number of items with additional content
25	957	18	74	9	70

For the individual update reports, Table 17 in Appendix A of the full working paper lists the guidelines in which discrepancies were identified, and Table 18 lists those in which no

discrepancies were identified. For the report on the development of the new DMP V21-05 on obesity, Table 19 lists the included guidelines in which potentially relevant and/or additional content for the new DMP to be developed was identified. Potentially relevant content is based on recommendations with a high GoR. Additional content, on the other hand, is based on recommendations that do not have a high GoR, are made in guidelines of good methodological quality, and are important for the comprehensive care of patients within a DMP. Table 20 lists the guidelines in which neither potentially relevant nor additional content was identified.

The abbreviations used below for the individual guidelines can be matched to the names and citations of these guidelines using the tables in Appendix A of the full working paper.

5.1.2 Results of information assessment

The guidelines included in the respective DMP reports were assessed to determine whether they met the stricter requirements for the guidelines to be included.

The results of this assessment are presented in Tables 3-6. The tables show whether the respective guidelines provide transparent information on the literature search and what standardised domain scores the guidelines achieved in the AGREE appraisal for Domains 2, 3 and 6. Based on this assessment, it can be determined whether the criterion ‘evidence-based’ is met.

Furthermore, the tables indicate whether a guideline is adopted or adapted. They also specify the thematic focus of each guideline and the section of the DMP-A-RL to which it is assigned.

Finally, the last column of the tables indicates whether the guideline is essential. This assessment takes into account, on the one hand, fulfilment of the criterion ‘evidence-based’ and, on the other hand, whether the guideline is adopted or adapted, as well as its thematic relevance. The rating ‘only partially’ was assigned if only individual thematic aspects of the guideline are relevant to healthcare within a DMP, rather than the guideline in its entirety. If the criterion ‘evidence-based’ was not met, this is indicated in this final column, as this leads to the rating that the guideline is ‘non-essential’.

In the following analysis, guidelines are considered ‘non-essential’ if they do not necessarily have to be identified through the focused guideline search.

Table 3: V22-04 'Coronary heart disease': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
AAFP 2019 [7]	The guideline is based on a systematic review (databases, search period, search strategies)	61%, **79%**, 67%	Yes	No	Depression following acute coronary syndrome	Item in the healthcare aspect of the DMP-A-RL (1.5.2.3 Mental health comorbidities)	**Yes**
ACC 2022 [8]	Databases, search date, search terms	44%, **63%**, 75%	Yes	No	Revascularisation and non-pharmacological and pharmacological therapy following revascularisation	Item in the healthcare aspect of the DMP-A-RL (1.5.5.2 Interventional and surgical coronary revascularisation) Treatment following revascularisation	**Yes** **but only partially:** ▪ Consultation and coordination regarding coronary revascularisation are relevant to the DMP ▪ The performance of revascularisation is not relevant to the DMP ▪ Care of patients following revascularisation is relevant to the DMP
ADA 2023 [9]	Databases, search period	14%, **14%**, 33%	No	No	CHD and diabetes	Healthcare aspect of the DMP-A-RL (1.5.2.2 Diabetes mellitus)	**No** Criterion 'evidence-based' not met

Table 3: V22-04 'Coronary heart disease': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
AHA 2021 [10]	Databases, search period, search terms	42%, **61%**, 75%	Yes	No	Evaluation and diagnosis of chest pain	Guideline for making the diagnosis	**Yes** **but only partially:** ▪ Making the diagnosis is only relevant for inclusion in the DMP
AHA 2019 [11]	Databases, search period, search terms	44%, **64%**, 21%	Yes	No	Management of blood cholesterol	Item in the healthcare aspect of the DMP-A-RL (1.5.3.1.2 Lipid-lowering agents)	**Yes**
DEGAM 2019 [12]	6 evidence reports with databases, search period, search terms	44%, **59%**, 21%	Yes	No	Antiplatelet agents	Healthcare aspect of the DMP-A-RL (1.5.3.1.1 Antiplatelet agents)	**Yes**
DGPR 2020 [13]	Database, search period, search terms	97%, **74%**, 71%	Yes	No	Cardiac rehabilitation	Healthcare aspect of the DMP-A-RL (1.6.4 Referral for a rehabilitation programme)	**Yes** **but only partially:** ▪ The content of a rehabilitation programme is not relevant to the DMP ▪ Indications and interventions used within a rehabilitation programme are relevant to the DMP

Table 3: V22-04 'Coronary heart disease': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
ESC 2021 ACS [14]	No	17%, **35%**, 54%	**No**	No	Coronary syndromes in patients presenting without persistent ST-segment elevation	Diagnosis of acute coronary syndrome	**No** Criterion 'evidence-based' not met
ESC 2021 prevention [15]	No	17%, **36%**, 63%	**No**	No	Prevention	Secondary prevention	**No** Criterion 'evidence-based' not met
ESC 2021 sports [16]	No	17%, **33%**, 50%	**No**	No	Exercise and cardiovascular disease	Healthcare aspect of the DMP-A-RL (1.5.1.3 Physical activity)	**No** Criterion 'evidence-based' not met
ESC 2020 CCS [17]	No	17%, **35%**, 63%	**No**	No	Care for chronic cardiovascular syndrome	Healthcare throughout the entire treatment pathway	**No** Criterion 'evidence-based' not met
ESC 2020 diabetes [18]	No	17%, **36%**, 63%	**No**	No	Diabetes, pre-diabetes and cardiovascular diseases	Healthcare aspect of the DMP-A-RL	**No** Criterion 'evidence-based' not met
ESC 2018 [19]	No	17%, **35%**, 50%	**No**	No	CHD and pregnancy	Not yet included in the DMP-A-RL	**No** Criterion 'evidence-based' not met

Table 3: V22-04 'Coronary heart disease': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
ICCPR 2022 [20]	The guideline is based on a systematic review (databases, search period, search strategies)	36%, **49%**, 88%	Yes	No	Cardiac rehabilitation for women	Item in the healthcare aspect of the DMP-A-RL (1.6.4 Referral for a rehabilitation programme)	**Yes** **but only partially:** ▪ The content of a rehabilitation programme is not relevant to the DMP ▪ Indications and interventions used within a rehabilitation programme are relevant to the DMP ▪ Specific recommendations for women are relevant to the DMP
NICE 2020 [21]	Databases, search period, search strategies	56%, **67%**, 71%	Yes	No	ACS	Early management following an ACS is not covered by the DMP-A-RL, but drug therapy for secondary prevention and lifestyle changes are	**Yes** **but only partially:** ▪ Secondary prevention and lifestyle changes following a myocardial infarction are relevant to the DMP
NVL 2022 [22]	Databases, search period and search strategies	83%, **69%**, 88%	Yes	No	Chronic CHD	Relevant to healthcare	**Yes**

Table 3: V22-04 ‘Coronary heart disease’: Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion ‘evidence-based’?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
VADoD 2020 [23]	Databases and search strategies	78%, **63%**, 29%	Yes	No	Treatment of dyslipidaemia to reduce cardiovascular risk (primary and secondary prevention)	Drug therapy for secondary prevention	**Yes** **but only partially:** ▪ Secondary prevention is relevant to the DMP

a. The standardised domain scores for Domains 2 (stakeholder involvement), 3 (rigour of guideline development) and 6 (editorial independence) of the AGREE II assessment are provided (see Table 102). Highlighted in bold: Domain 3 (rigour of guideline development)

AGREE: Appraisal of Guidelines for Research & Evaluation

Table 4: V22-01 'Depression': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
AAFP 2019 [7]	The guideline is based on a systematic review (databases, search period, search strategies)	61%, **79%**, 67%	Yes	No	Adults who have recently (≥ 3 months) experienced an acute coronary syndrome event, and adults with depression following an acute coronary syndrome event (≥ 3 months); Screening and treatment	Coronary heart disease is listed as a relevant somatic comorbidity (V1.5.6.2) and treatment in the presence of this comorbidity	**Yes** **but only partially**: ▪ Treatment of depression is relevant to the DMP ▪ Screening is not relevant to the DMP
AAFP 2019 disorder [24]	Databases, search period, search strategies	14%, **24%**, 54%	No	No	Sport, yoga, meditation	1.5.4 Further procedures and supporting measures	**No** Criterion 'evidence-based' not met
ADAA 2021 [25]	Databases, search period, search terms	17%, **31%**, 25%	Yes	No	Patients with depression who have not achieved remission despite several courses of treatment	Lack of response to the chosen antidepressant is a focus of follow-up monitoring during drug treatment	**Yes**
APA 2019 [26]	The guideline is based on 10 systematic reviews and meta-analyses.[b]	58%, **48%**, 88%	Yes	No	Children and adolescents, adults and older adults with depressive disorders (major depression, subsyndromal depression, persistent depressive disorder)	Patients with unipolar depression aged 18 and over can be enrolled in the DMP.	**Yes** **but only partially**: ▪ The patient population of adults and older adults is relevant to the DMP

Table 4: V22-01 'Depression': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
CANMAT 2022 [27]	Based on 2 systematic reviews and supplementary searches for primary studies; Databases, search period, search terms	36%, **47%**, 25%	Yes	No	Nutraceuticals and phytoceuticals: Patients with mental disorders such as major depression, bipolar disorder, generalised anxiety disorder, schizophrenia and attention-deficit/hyperactivity disorder	Nutraceuticals and phytoceuticals are not addressed in the DMP-A-RL	**Yes** **but only partially:** ▪ Nutraceuticals and phytoceuticals are only a minor sub-aspect of the DMP
CANMAT 2021 [28]	Databases, search period	25%, **23%**, 50%	No	No	Racemic ketamine for severe depression	1.5.3 Drug therapy	**No** Criterion 'evidence-based' not met
CCSMH 2021 [29]	Databases and search period specified; search terms from the previous guideline adopted, but these are not listed and the previous version could not be found	19%, **21%**, 17%	No	No	Older adults with depression	1.5.1.2 Treatment principles depending on the patient's age	**No** Criterion 'evidence-based' not met
EPA 2018 [30]	Databases, search period, search terms	19%, **36%**, 63%	Yes	No	Physical activity for the treatment of patients with severe mental illnesses (schizophrenia spectrum disorders, major depression, bipolar disorder)	1.5.4 Further procedures and supportive measures Physical activity is mentioned but not elaborated upon	**Yes** **but only partially:** ▪ Physical activity is only a minor sub-aspect of the DMP

Table 4: V22-01 'Depression': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
ISNPR 2019 [31]	Databases, search period, search terms	19%, **19%**, 33%	No	No	Omega-3 fatty acids as dietary supplements	1.5.4 Further procedures and supporting measures	**No** Criterion 'evidence-based' not met
JSPN 2022 [32]	Databases, search period, search terms	42%, **22%**, 33%	No	No	Older adults with depression	1.5.1.2 Treatment principles depending on the patient's age	**No** Criterion 'evidence-based' not met
NICE 2022 [33]	Databases, search period, search strategies for each search	44%, **73%**, 67%	Yes	No	Treatment and management of adults with depression	Comprehensive care	**Yes**
NVL 2022 [34]	Databases, search period, search strategies for each search	75%, **75%**, 92%	Yes	No	Patients with unipolar depressive disorder	Comprehensive care	**Yes**
RANZCP 2020 [35]	Databases	50%, **22%**, 46%	No	No	Treatment of affective disorders	Comprehensive care	**No** Criterion 'evidence-based' not met
UMHS 2021 [36]	Databases, search period, search terms	17%, **25%**, 50%	No	No	Adults and adolescents aged 12 years and over with unipolar depression	Comprehensive care	**No** Criterion 'evidence-based' not met
VADoD 2022 [37]	Databases, search period, search strategies	81%, **66%**, 58%	Yes	No	Treatment of adults with depression (excluding: patients at risk of suicide, patients with depression following a stroke, and patients with bipolar disorder I/II)	Comprehensive care	**Yes**

Table 4: V22-01 ‘Depression’: Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion ‘evidence-based’?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
a. The standardised domain scores for Domains 2 (involvement of stakeholders), 3 (rigour of guideline development) and 6 (editorial independence) of the AGREE II assessment are provided (see Table 102). Highlighted in bold: Domain 3 (rigour of guideline development) b. It is assumed that the systematic reviews provide the information on literature searches required for the criterion ‘evidence-based’. This was not verified as part of the present analysis. AGREE: Appraisal of Guidelines for Research & Evaluation							

Table 5: V20-05 'Heart failure': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
AAFP 2017 [38]	Database, search period	17%, **26%**, 4%	No	No	Drug therapy	V1.4.2 Drug therapy for heart failure	**No** Criterion 'evidence-based' not met
ACC 2017 [39]	Databases, search period, search terms	31%, **70%**, 71%	Yes	No	Drug therapy and biomarkers	1.4.2 Drug therapy for heart failure	**Yes** **but only partially** ▪ Evaluation using biomarkers not yet included in the DMP-A-RL
AND 2017 [40]	Databases, search strategies and search period	22%, **63%**, 13%	Yes	No	Medical nutritional therapy for patients with heart failure	Nutrition is not addressed in the DMP-A-RL	**Yes** **but only partially** ▪ Nutrition is not addressed in the DMP-A-RL or in the other guidelines
CCS 2017 [41]	Statement: 'consideration of medical literature'. The methods paper states that the guideline group should document the search strategy. An author enquiry would need to be made for inclusion	31%, **40%**, 21%	Unclear	No	Diagnosis and treatment (self-care, pharmacological, non-pharmacological, devices and referral)	Comprehensive care	**Yes** (provided that the necessary details on a systematic literature review are obtained via an author enquiry)

Table 5: V20-05 'Heart failure': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
CCS 2020 heart [42]	Statement: 'consideration of medical literature'. The methods paper states that the literature review group should document the search strategy. An author enquiry would need to be made for inclusion	31%, **39%**, 21%	Unclear	No	(1) transcatheter mitral valve repair; (2) potential treatments for transthyretin amyloidosis (ATTR) or transthyretin cardiac amyloidosis (CA); (3) the role of ARNI in patients with HF and preserved ejection fraction (HFpEF); and (4) prevention of HF outcomes with SGLT2 inhibitors.	ARNI and SGLT2 inhibitors were current topics during the preparation of the report Mitral valve repair and amyloidosis were not covered by the DMP-A-RL, as they involve surgery and a rare condition	**Yes** (provided that the necessary details on a systematic literature review are obtained via an author enquiry)
CCS 2020 position [43]	Databases, search strategy and search period specified	31%, **56%**, 21%	Yes	No	Heart transplantation: patient suitability and selection, follow-up care	Only referral for assessment of eligibility for a transplant	**Yes** **but only partially** ▪ The indication for transplantation is not determined by the coordinating doctor
CCS 2021 [44]	It is merely stated that a systematic search was carried out	33%, **25%**, 21%	No	No	Drug therapy for HFrEF	V1.4.2 Drug therapy for heart failure	**No** Criterion 'evidence-based' not met

Table 5: V20-05 'Heart failure': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
DGPR 2020 [45]	Databases, search terms and search period specified for various research questions	97%, **74%**, 71%	Yes	No	Cardiac rehabilitation in Germany, Austria and Switzerland Indications, content and interventions, cardiovascular risk factors and comorbidities, specific patient groups, follow-up care and outpatient aftercare	V1.6.4 Referral for a rehabilitation programme	**Yes** **but only partially:** ▪ The content of a rehabilitation programme is not relevant to the DMP ▪ Indications and interventions used within a rehabilitation programme are relevant to the DMP
ESC 2018 [46]	Databases, search period	17%, **35%**, 50%	No	No	Cardiovascular diseases during pregnancy	No	**No** Criterion 'evidence-based' not met
ESC 2020 [47]	Only general information	17%, **33%**, 50%	No	No	Sport and exercise in cardiovascular disease	V1.4.1 General measures	**No** Criterion 'evidence-based' not met
ESC 2021 [48]	Only general information	17%, **35%**, 50%	No	No	Diagnosis and treatment of acute and chronic heart failure	Comprehensive care	**No** Criterion 'evidence-based' not met

Table 5: V20-05 'Heart failure': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/ adaptation?	Thematic focus	Topic of the DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
NHF 2018 [49]	Statement: a systematic literature review was conducted; PICO questions for the literature search are included in the appendix	22%, **32%**, 33%	No, an enquiry would need to be made to the authors	No	Diagnosis, prevention, non-drug and drug therapy, medical devices, comorbidities, specific situations	Comprehensive care	**No** Criterion 'evidence-based' not met
NICE 2018 [50]	Databases, search strategies, search period	53%, **72%**, 58%	Yes	No	Diagnosis, treatment, monitoring, rehabilitation, palliative care	Comprehensive care	**Yes**
NVL 2021 [51]	Databases, search strategies, search period	89%, **84%**, 92%)	Yes	No	Diagnosis, treatment, monitoring, rehabilitation, palliative care, care coordination	Comprehensive care	**Yes**

a. The standardised domain scores for Domains 2 (stakeholder involvement), 3 (rigour of guideline development) and 6 (editorial independence) of the AGREE II assessment are given (see Table 102). Highlighted in bold: Domain 3 (rigour of guideline development)

AGREE: Appraisal of Guidelines for Research & Evaluation

Table 6: V21-05 'Obesity – Adults': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/adaptation?	Thematic focus	Topic for DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
AACE 2020 [52]	Only search period; for PubMed, the number of hits is given to indicate that there is a wealth of recent literature.	33%, **25%**, 25%	No	No	Bariatric surgery: who is it for, pre-operative treatment and perioperative management	Surgical treatment	**No** Criterion 'evidence-based' not met
ACOG 2021 [53]	Databases, search period specified	6%, **18%**, 21%	No	No	Pregnancy: comprehensive care	Pregnancy	**No** Criterion 'evidence-based' not met
ADA 2022 obesity [54]	Only search period specified	14%, **14%**, 33%	No	No	Diabetes – Obesity	Diabetes	**No** Criterion 'evidence-based' not met
ADA 2022 older [55]	Only search period specified	14%, **14%**, 33%	No	No	Diabetes – Obesity – older people	Diabetes	**No** Criterion 'evidence-based' not met
AGA 2021 [56]	Databases, search strategy, search period	44%, **57%**, 38%	Yes	No	Gastric balloon (endoscopic procedure) (a procedure considered controversial according to external expert)	No (as it is a controversial procedure, it was also not included in the DMP-A-RL)	**No** ▪ Even though the guideline meets all the stricter requirements for guideline inclusion, the sole topic of the guideline is a controversial procedure and is therefore not relevant to the DMP.

Table 6: V21-05 'Obesity – Adults': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/adaptation?	Thematic focus	Topic for DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
AOM 2019 [57]	Databases, search period, search terms	14%, **19%**, 33%	No	No	Pregnancy	No	**No** Criterion 'evidence-based' not met
ATS 2019 [58]	Databases, search period	64%, **52%**, 50%	No	No	Obesity – hypoventilation syndrome	Yes	**No** Criterion 'evidence-based' not met
ATS 2018 [59]	Databases, few search terms, search period, date of search	44%, **52%**, 33%	Yes	No	Obesity – sleep apnoea	Yes	**Yes**
BOMSS 2020 [60]	Databases, search strategy, search period	50%, **39%**, 25%	Yes	No	Bariatric surgery: perioperative and postoperative biochemical monitoring	Pre- and post-operative follow-up is not carried out via the DMP	**Yes** **but only partially:** ▪ No potentially relevant or additional content was identified in this guideline.
CFAS 2018 [61]	Databases	8%, **17%**, 13%	No	No	Obesity – fertility, reproduction	No	**No** Criterion 'evidence-based' not met
DGAV 2018 [62]	Databases, search strategy, search period	75%, **71%**, 63%	Yes	No	Surgical treatment: Indication, surgical procedure, perioperative management, follow-up care	Yes	**Yes**

Table 6: V21-05 'Obesity – Adults': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/adaptation?	Thematic focus	Topic for DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
DGGG 2019 [63]	Databases, search strategy, search period	33%, **46%**, 92%	Yes	No	Pregnancy	No	**Yes** Specification when project is commissioned; pregnancy should be taken into account
EAES 2020 [64]	Databases, search strategy, search period	61%, **56%**, 63%	Yes	No	Surgical treatment: pre-, peri- and post-operative management, surgical procedures	Yes	**Yes**
EASO 2021 [65]	Databases, search terms, search period	17%, **33%**, 8%	Yes	No	Physical activity	Yes	**Yes**
ESE 2020 [66]	Databases, search strategy, search period	25%, **44%**, 33%	Yes	No	Endocrinological investigation in obesity	Yes	**Yes**
FSRH 2019 [67]	Databases; date up to which the search was conducted	44%, **36%**, 58%	No	No	Contraception	No	**Yes** Specification when project is commissioned: Women of childbearing age should be taken into account

Table 6: V21-05 'Obesity – Adults': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/adaptation?	Thematic focus	Topic for DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
OC 2020 [68]	Databases and search period specified Search strategy: Reference is made to a website, but it is noted that this information is not publicly accessible	58%, **44%**, 79%	Yes However, one would have to submit an enquiry to the author.	No	Obesity in adults	Comprehensive care	**Yes**
QCG 2021 [69]	Databases, search strategy, search period	22%, **27%**, 42%	No	No	Pregnancy	No	**No** Criterion 'evidence-based' not met
RCOG 2018 [70]	Databases, search terms and search period	25%, **38%**, 38%	Yes	No	Pregnancy	No	**Yes** **but only partially:** ▪ No potentially relevant or additional content was identified in this guideline. ▪ Specification when the project is commissioned: pregnancy should be taken into account
Shawe 2019 [71]	Search terms and search period	17%, **21%**, 25%	No	No	Pregnancy following bariatric surgery	No	**No** Criterion 'evidence-based' not met

Table 6: V21-05 'Obesity – Adults': Included guidelines – assessment of relevance (multi-page table)

Guideline	Evidence-based approach		Does it meet the criterion 'evidence-based'?	Guideline adoption/adaptation?	Thematic focus	Topic for DMP-A-RL	Essential guideline?
	Systematic search	AGREE appraisal[a]					
SOGC 2019 [72]	Databases and search period	25%, **23%**, 25%	No	No	Pregnancy: Preconception and prenatal	No	**No** Criterion 'evidence-based' not met
SOGC 2018 [73]	Databases and search period	14%, **17%**, 8%	No	No	Pregnancy	No	**No** Criterion 'evidence-based' not met
USPSTF 2021 [74]	Databases, search strategy, search period	19%, **60%**, 83%	Yes	No	Screening for diabetes and prediabetes	Yes	**Yes**
USPSTF 2018 [75]	Databases, search strategy, search period	17%, **41%**, 71%	Yes	No	Basic treatment	Yes	**Yes**
VADoD 2020 [76]	Databases, search strategy, search period	75%, **54%**, 21%	Yes	No	Overweight and obesity	Yes	**Yes**

a. The standardised domain scores for Domains 2 (stakeholder involvement), 3 (rigour of guideline development) and 6 (editorial independence) of the AGREE II assessment are provided (see Table 102). Highlighted in bold: Domain 3 (rigour of guideline development)

AGREE: Appraisal of Guidelines for Research & Evaluation

5.1.3 Results of information synthesis and analysis

5.1.3.1 V22-04 DMP 'Coronary heart disease'

In report V22-04 on coronary heart disease, when the requirements for the guidelines to be included are tightened, 7 of the 17 guidelines do not meet the inclusion criteria (ADA[7] 2023 [9], ESC[8] 2021 ACS[9] [14], ESC 2021 Prevention, ESC 2021 Sports [16], ESC 2020 CCS [17], ESC 2020 Diabetes [18], ESC 2018 [19]). The criterion 'evidence-based' was not met by any of the ESC guidelines, as these guidelines do not provide any further details regarding the search. The criterion of thematic relevance was not used as an exclusion criterion for the analysis, as all guidelines that meet the stricter requirements are relevant, at least in part, i.e. in terms of individual aspects of the guideline. For example, whilst the 2 guidelines DGPR[10] 2020 [13] and ICCPR[11] 2022 [20] deal exclusively with cardiac rehabilitation, they may nevertheless contain relevant recommendations. The content of cardiac rehabilitation is not regulated by the DMP; rather, it regulates only the indication criteria for rehabilitation. However, as recommendations on interventions – such as physical training, psychosocial interventions and nutritional advice – used within a rehabilitation programme may be relevant, the DGPR guideline in particular could, potentially following a review of its content, be included in a DMP report, even if it does not appear to be thematically relevant at first glance.

Table 21 in Appendix B of the full working paper lists the guidelines, sorted according to whether or not they meet the stricter requirements, as well as the number of discrepancies identified for each guideline by healthcare aspect and in total.

Table 7 shows how many recommendations would no longer be included in the report if the requirements for the guidelines to be included were tightened, and how many discrepancies would no longer be identified. With regard to the discrepancies, it was only examined which discrepancies were based exclusively on recommendations of guidelines to be excluded. It was not examined whether individual content-related aspects of the discrepancies would be omitted if a discrepancy was based on recommendations from several guidelines and occasionally did not meet the stricter requirements.

By excluding guidelines that do not meet the stricter requirements, discrepancies relating in particular to specific co-morbidities and multimorbidities – such as arterial hypertension, thyroid disorders, cancer and sleep disorders – are omitted. Furthermore, the topic of pregnant women would no longer be covered. However, this is not a critical issue, as the

[7] American Diabetes Association

[8] European Society of Cardiology

[9] acute coronary syndrome

[10] German Society for the Prevention and Rehabilitation of Cardiovascular Diseases

[11] International Council of Cardiovascular Prevention and Rehabilitation Clinical Practice

proportion of patients in the DMP on coronary heart disease who are aged 45 or younger is minor. In 2023, this proportion stood at 1.1% [77].

Table 7: V22-04 'Coronary heart disease': Number of recommendations and discrepancies per healthcare aspect

Healthcare aspects	**Number of recommendations[a]**		**Number of discrepancies[b]**	
	V22-04	**Reduced guideline pool**	**V22-04**	**Reduced guideline pool**
V1.2 Diagnostic criteria for narrowing down the target group	78	35	11	7
V1.3 Treatment objectives	0	0	0	0
V1.4 Treatment planning and medical check-ups	38	25	9	7
V1.5 Therapeutic measures – general	3	1	2	1
V1.5.1 General measures	44	32	4	3
V1.5.2 Managing co-morbidity and multi-morbidity	73	15	15	4
V1.5.3 Drug therapy – general	4	1	2	1
V1.5.3.1 Treatment to improve prognosis	156	69	15	8
V1.5.3.2 Symptomatic treatment	13	3	0	0
V1.5.4 Special measures for patients on multiple medications	0	0	0	0
V1.5.5 Coronary angiography / coronary vascularisation – general	10	9	1	1
V1.5.5.1 Coronary angiography	21	5	5	3
V1.5.5.2 Interventional surgical coronary revascularisation	63	43	6	6
V1.X Pregnant women / women of childbearing age	16	0	3	0
V1.6 Co-operation between healthcare sectors	60	51	7	6
V4 Training courses	3	2	2	2
TOTAL	582	291	82	49

a. Number of recommendations assigned to a specific healthcare aspect.
b. Only discrepancies that are based exclusively on guidelines no longer included in the reduced guideline pool are omitted from this count.

5.1.3.2 V22-01 'Depression'

In report V22-01 on depression, when the requirements for the guidelines to be included are tightened, 7 of the 15 guidelines do not meet the inclusion criteria (AAFP[12] 2019 disorder [24], CANMAT[13] 2021 [28], CCSMH[14] 2021 [29], ISNPR[15] 2019 [31], JSPN[16] 2022 [32], RANZCP[17] 2020 [35], UMHS[18] 2021 [36]). The criterion of thematic relevance was not used as an exclusion criterion for the analysis, as all guidelines that meet the stricter requirements are relevant, at least in part, i.e. in terms of individual aspects of the guideline.

Table 22 in Appendix B of the full working paper lists the guidelines, sorted according to whether or not they meet the stricter requirements, as well as the number of discrepancies identified for each guideline by healthcare aspect and in total.

Table 8 shows how many recommendations would no longer be included in the report if the requirements for the guidelines to be included were tightened, and how many discrepancies would no longer be identified. With regard to the discrepancies, it was only examined which discrepancies were based exclusively on recommendations of guidelines to be excluded. It was not examined whether individual content-related aspects of the discrepancies would be omitted if a discrepancy was based on recommendations from several guidelines and occasionally did not meet the stricter requirements.

As a result of excluding the guidelines that do not meet the stricter requirements, 2 out of 10 discrepancies in the healthcare aspect V1.5.1 'General recommendations for treatment' are omitted.

[12] American Academy of Family Physicians

[13] Canadian Network for Mood and Anxiety Treatments

[14] Canadian Coalition for Seniors' Mental Health

[15] International Society for Nutritional Psychiatry Research Practice

[16] Japanese Society of Mood Disorders

[17] Royal Australian and New Zealand College of Psychiatrists

[18] University of Michigan Health System

Table 8: V22-01 'Depression': Number of recommendations and discrepancies per healthcare aspect

Healthcare aspects	Number of recommendations[a]		Number of discrepancies	
	V22-01	Reduced guideline pool	V22-01	Reduced guideline pool
V1.2 Adequate diagnostics	8	6	1	1
V1.3 Treatment objectives	0	0	0	0
V1.4 Treatment planning	30	25	6	6
V1.5.1 General recommendations for treatment	158	50	10	8
V1.5.2 Psychotherapy	17	14	3	3
V1.5.X Neurostimulation techniques	27	20	1	1
V1.5.3 Drug therapy	71	38	5	5
V1.5.4 Other procedures / supportive measures	63	53	4	4
V1.5.5 Crisis management and procedures for dealing with suicidal behaviour	24	24	5	5
V1.5.6 Measures in cases of comorbidity	10	10	4	4
V1.5.7 Special measures for patients on multiple medications	0	0	0	0
V1.6 General follow-up care	46	40	4	4
V1.6.1 Monitoring progress of psychotherapy	20	19	2	2
V1.6.2 Monitoring progress of drug therapy	91	68	7	7
V1.7 Cooperation in general	16	15	1	1
V1.7.1 Coordinating doctor	0	0	0	0
V1.7.2 Referral	8	6	1	1
V1.7.3 Hospital admission	6	6	2	2
V1.7.4 Referral for a rehabilitation programme	2	2	1	1
V4 Training courses	0	0	0	0
TOTAL	597	396	57	55
a. Number of recommendations assigned to the respective healthcare aspect.				

5.1.3.3 V20-05 'Heart failure'

In report V20-05 on heart failure, when the requirements for the guidelines to be included are tightened, 6 of the 14 guidelines do not meet the inclusion criteria (AAFP 2017 [38], CCS 2021

[44], ESC 2018 [46], ESC 2020 [47], ESC 2021 [48], NHF[19] 2018 [49]). The criterion of thematic relevance was not used as an exclusion criterion for the analysis, as all guidelines that meet the stricter requirements are relevant, at least in part, i.e. in terms of individual aspects of the guideline. For example, whilst the DGPR 2020 guideline [45] deals exclusively with cardiac rehabilitation, it may nevertheless contain relevant recommendations. The content of cardiac rehabilitation is not regulated by the DMP; rather, it regulates only the indication criteria for rehabilitation. However, as recommendations on interventions – such as physical training, psychosocial interventions and nutritional advice – used within a rehabilitation programme may be relevant, in particular if they refer to the German healthcare context, the German DGPR guideline could, potentially following a review of its content, be included in a DMP report, even if it does not appear to be thematically relevant at first glance.

Table 23 in Appendix B of the full working paper lists the guidelines, sorted according to whether or not they meet the stricter requirements and their thematic relevance for the report, as well as the number of discrepancies identified for each guideline by healthcare aspect and in total.

Table 9 shows how many recommendations would no longer be included in the report if the criteria for the guidelines to be included were tightened, and how many discrepancies would no longer be identified. With regard to the discrepancies, it was only examined which discrepancies were based exclusively on recommendations of guidelines to be excluded. It was not examined whether individual aspects of the discrepancies would be omitted if a discrepancy was based on recommendations from several guidelines and occasionally did not meet the stricter requirements.

Excluding the guidelines that do not meet the stricter requirements results in only 9 out of 64 discrepancies being omitted. Only the topic of heart failure with mildly reduced left ventricular ejection fraction (HFmrEF) would be omitted from the report. This classification of heart failure is not currently reflected in the DMP-A-RL and is also not included in the multidisciplinary, high-quality heart failure guidelines.

[19] National Heart Foundation (of Australia and Cardiac Society of Australia and New Zealand)

Table 9: V20-05 'Heart failure': Number of recommendations and discrepancies per healthcare aspect

Healthcare aspects	Number of recommendations[a]		Number of discrepancies	
	V20-05	Reduced guideline pool	V20-05	Reduced guideline pool
V1.2 Diagnostic criteria for defining the target group	63	37	5	5
V1.3 Treatment objectives	1	1	0	0
V1.4.1 General measures	63	46	6	6
V1.4.2.1 General principles of drug therapy	5	3	1	1
V1.4.2.2 Specific recommendations for drug therapy	82	36	11	8
V1.4.3 Special considerations in cases of comorbidity	97	68	9	8
V1.4.4 Specific interventional measures	95	50	7	7
V1.4.5 Specific aspects relating to the progression of the disease	23	14	2	2
V1.5 Monitoring	44	35	6	6
V1.6 Cooperation in general	17	17	3	3
V1.6.2 Referral	4	2	1	1
V1.6.3 Hospital admission	8	7	2	2
V1.6.4 Referral for a rehabilitation programme	36	36	4	2
V4 Training courses	8	6	2	1
V.W HFmrEF	12	0	1	0
V.X HFpEF	24	18	3	2
V.Y Right-sided heart failure	7	7	1	1
TOTAL	589	383	64	55
a. Number of recommendations assigned to a specific healthcare aspect.				

5.1.3.4 V21-05: Development of the new DMP 'Obesity – Adults'

In report V21-05 on obesity in adults, when the requirements for the guidelines to be included are tightened, 12 of the 25 guidelines do not meet the inclusion criteria (AACE[20] 2020 [52], ACOG[21] 2021 [53], ADA 2022 obesity [54], ADA 2020 older [55], AGA[22] 2021 [56], AOM[23] 2019

[20] American Association of Clinical Endocrinologists/American College of Endocrinology

[21] American College of Obstetricians and Gynecologists

[22] American Gastroenterological Association

[23] Association of Ontario Midwives

[57], ATS[24] 2019 [58], CFAS[25] 2018 [61], QCG[26] 2021 [69], Shawe 2019 [71], SOGC[27] 2019 [72], SOGC 2018 [73]). The AGA 2021 guideline is the only one that does not meet the criterion of content relevance, as it deals exclusively with the topic of gastric balloons.

Table 24 in Appendix B of the full working paper lists the guidelines, sorted according to whether or not they meet the stricter requirements, as well as the number of items with potentially relevant and additional content for each guideline by healthcare aspect and in total.

Table 10 shows how many recommendations would no longer be included in the report if the requirements for the guidelines to be included were tightened, and how many items with potentially relevant or additional content would no longer be identified. With regard to the content, it was only examined which content was based exclusively on recommendations from the guidelines to be excluded. It was not examined whether individual aspects of the potentially relevant or additional content would be omitted if the identified content was based on recommendations from several guidelines and occasionally failed to meet the stricter requirements.

By excluding guidelines that do not meet the stricter requirements, only a few items with potentially relevant and additional content are omitted. The comorbidity known as Pickwick's syndrome would not be included in the report, as this is only addressed in the ATS 2019 guideline [58]. The changes also relate in particular to the provision of information and counselling in preconception care and during pregnancy. None of these aspects were included in the newly developed DMP on obesity in adults, despite being mentioned in the guideline synopsis.

[24] American Thoracic Society

[25] Canadian Fertility & Andrology Society

[26] Queensland Clinical Guidelines

[27] Society of Obstetricians and Gynaecologists of Canada.

Table 10: V21-05 'Obesity – Adults': Number of recommendations and of potentially relevant and additional content per healthcare aspect

Healthcare aspects	Number of recommendations[a]		Number of items with potentially relevant content[b]		Number of items with additional content[c]	
	V21-05	Reduced guideline pool	V21-05	Reduced guideline pool	V21-05	Reduced guideline pool
V1.2 Diagnostics	34	34	3	3	4	4
V1.3 Treatment objectives	2	2	1	1	–	–
V1.4 Principles of therapy	13	10	2	1	1	1
V1.5 Therapeutic measures						
General information and polypharmacy	4	4	1	1	2	2
V1.5.1 Basic therapy	68	68	5	5	4	4
V1.5.2 Adjuvant drug therapy	11	11	1	1	1	1
V1.5.3 Surgical treatment	143	143	4	3	11	11
V1.5.4 Endoscopic procedures	13	13	1	0	1	1
V1.6 Long-term care	217	217	4	4	5	5
V1.7 Comorbidities	98	91	13	11	8	6
V1.8 Cooperation between the healthcare sectors	44	44	3	2	3	3
V1.9 Training courses	10	10	2	2	1	1
V1.10 Digital medical applications[d]	7	7	–			
V1.11 Pregnant women and women of childbearing age						
V1.11.1 Contraception	48	41	1	1	5	5
V1.11.2 Preconception care	52	20	8	2	4	4
V1.11.3 Antenatal care	122	70	16	10	12	12
V1.11.4 Birth	65	49	8	7	8	8
V1.11.5 Cooperation between the healthcare sectors	6	5	1	–	–	–
TOTAL (excluding digital medical applications)	950	832	74	54	70	68

a. Number of recommendations assigned to a particular healthcare aspect.
b. Potentially relevant content is based on guideline recommendations with a high GoR.
c. Additional content is based on guideline recommendations with a non-high GoR; however, they are considered relevant by the external expert for the development of a new DMP.
d. All recommendations on digital medical content are presented in the report without specifying whether the content is potentially relevant or additional.

GoR: Grade of Recommendation

5.1.3.5 Summary: Data pool for research question 2

Table 11 shows the number of guidelines and recommendations, as well as the discrepancies, both for the respective DMP reports and for the situation following the reduction of the guideline pool by applying the stricter requirements for guideline inclusion. The total number of guidelines is reduced from 46 to 26 (57%; ranging from 57% to 59% for the individual reports) and the number of recommendations that could be assigned to the individual healthcare aspects of the DMP-A-RL is reduced from 1768 to 1070 (61%; ranging from 50% to 66% for the individual reports). The resources required for report preparation are consequently substantially reduced. The number of discrepancies presented in the report decreases to a smaller extent, from 203 to 159 (78%; ranging from 60% to 96% for individual reports). If the discrepancies are viewed as a surrogate for the relevant information, some of this information is lost by applying the stricter requirements for guideline inclusion. However, the relevant information is not reduced to the same extent as the guideline pool/recommendations or the resources required for report preparation. Furthermore, the loss of information from guidelines that do not meet the stricter requirements for guideline inclusion is considered insignificant. This is because conflicting recommendations from these guidelines do not represent a relevant loss of information for DMP development, given their insufficient evidence base.

Table 11: Update reports: Number of recommendations and discrepancies in the respective report and following the application of the stricter requirements for guideline inclusion

Report	Number of guidelines		Number of recommendations[a]		Number of discrepancies	
	DMP report	Reduced guideline pool	DMP report	Reduced guideline pool	DMP report	Reduced guideline pool
V22-04 DMP ‘Coronary heart disease’ [6]	17	10	582	291	82	49
V22-01 DMP ‘Depression’ [5]	15	8	597	396	57	55
V20-05 DMP ‘Heart failure’ [3]	14	8	589	383	64	55
TOTAL	46	26	1768	1070	203	159
a. Number of recommendations assigned to a healthcare aspect.						

Table 12 shows that applying the stricter requirements for guideline inclusion in the report on the development of the new DMP on obesity in adults also has an impact: The number of recommendations assigned to the individual healthcare aspects fell from 957 to 832 (87%), those for items with potentially relevant content from 74 to 61 (82%) and those for items with additional content from 70 to 68 (97%).

Table 12: Report on the development of the new DMP 'Obesity – Adults' [4]: Number of recommendations, potentially relevant content and additional content following the application of the stricter requirements for guideline inclusion

Number of guidelines		**Number of recommendations**		**Number of items with potentially relevant content**		**Number of items with additional content**	
DMP report	**Reduced guideline pool**	**DMP report**	**Reduced guideline pool**	**DMP report**	**Reduced guideline pool**	**DMP report**	**Reduced guideline pool**
25	13	950	832	74	61	70	68

Table 13 lists the guidelines that meet the stricter requirements, were relevant to the content of the respective DMP report, and formed the data pool for RQ 2.

Table 13: Guidelines that meet the stricter requirements and were relevant in terms of content to the respective DMP report (multi-page table)

Guideline (abbreviation in the respective DMP report)	Publisher	Abbreviation
V22-04 'Coronary heart disease'		
Depression Following Acute Coronary Syndrome Events: Screening and Treatment Guidelines from the AAFP (AAFP 2019)	American Academy of Family Physicians (AAFP)	AAFP 2019 – Depression [7]
2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularization: Executive Summary: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines (ACC 2022)	American College of Cardiology (ACC), American Heart Association (AHA)	ACC 2022 – Revascularization [8]
2021 AHA/ACC/ASE/CHEST/SAEM/SCCT/SCMR Guideline for the Evaluation and Diagnosis of Chest Pain: A Report of the American College of Cardiology/American Heart Association Joint Committee on Clinical Practice Guidelines (AHA 2021)	American College of Cardiology (ACC), American Heart Association (AHA)	AHA 2021 – Chest Pain [10]
2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines (AHA 2019)	American Heart Association (AHA)	AHA 2019 – Cholesterol [11]
New antiplatelet agents; use in general practice (DEGAM 2019)	German Society for General Practice and Family Medicine (DEGAM)	DEGAM 2019 – Thrombozyten [12]
S3 Guideline on Cardiac Rehabilitation (LL-KardReha) in German-speaking Europe: Germany, Austria, Switzerland (D-A-CH) (DGPR 2020)	German Society for the Prevention and Rehabilitation of Cardiovascular Diseases (DGPR)	DGPR 2020 – Rehabilitation [13]
International Council of Cardiovascular Prevention and Rehabilitation Clinical Practice Guideline (ICCPR 2022)	International Council of Cardiovascular Prevention and Rehabilitation	ICCPR 2022 – Women Rehabilitation [20]
Acute coronary syndromes (NICE 2020)	National Institute for Health and Care Excellence (NICE)	NICE 2020 – Coronary [21]

Table 13: Guidelines that meet the stricter requirements and were relevant in terms of content to the respective DMP report (multi-page table)

Guideline (abbreviation in the respective DMP report)	**Publisher**	**Abbreviation**
National Care Guideline; Chronic Coronary Heart Disease (NVL 2022)	German Medical Association, National Association of Statutory Health Insurance Physicians, Association of Scientific Medical Societies	NVL 2022 – KHK [22]
Management of Dyslipidaemia for Cardiovascular Disease Risk Reduction: Synopsis of the 2020 Updated U.S. Department of Veterans Affairs and U.S. Department of Defence Clinical Practice Guideline (VADoD 2020)	U.S. Department of Veterans Affairs and U.S. Department of Defense Clinical Practice	VADoD 2020 – Dyslipidemia [23]
V22-01 'Depression'		
Depression following acute coronary syndrome events: screening and treatment guidelines from the AAFP (AAFP 2019)	American Academy of Family Physicians	AAFP 2019 – Depression [7]
Treatment-resistant major depressive disorder: Canadian expert consensus on definition and assessment (ADAA 2021)	Anxiety and Depression Association of America	ADAA 2021 – Treatment-resistant major depressive disorder [25]
APA clinical practice guideline for the treatment of depression across three age cohorts (APA 2019)	American Psychological Association	APA 2019 – Age cohorts [26]
Clinical guidelines for the treatment of psychiatric disorders with nutraceuticals and phytoceuticals: the World Federation of Societies of Biological Psychiatry (WFSBP) and Canadian Network for Mood and Anxiety Treatments (CANMAT) Task Force (CANMAT 2022)	Canadian Network for Mood and Anxiety Treatments Task Force	CANMAT 2022 – Psychiatric [27]
EPA guidance on physical activity as a treatment for severe mental illness: a meta-review of the evidence and Position Statement from the European Psychiatric Association (EPA), supported by the International Organisation of Physical Therapists in Mental Health (IOPTMH) (EPA 2018)	European Psychiatric Association	EPA 2018 – Mental illness [30]
Depression in adults: treatment and management (NICE 2022)	National Institute for Health and Care Excellence	NICE 2022 – Depression [33]

Table 13: Guidelines that meet the stricter requirements and were relevant in terms of content to the respective DMP report (multi-page table)

Guideline (abbreviation in the respective DMP report)	**Publisher**	**Abbreviation**
National Care Guideline: Unipolar Depression (NVL 2022)	Association of Scientific Medical Societies	NVL 2022 – Depression [34]
VA/DoD clinical practice guideline for the management of major depressive disorder (VADoD 2022)	Veterans Affairs / Department of Defence	VADoD 2022 – depressive [37]
V20-05 'Heart failure'		
2017 ACC/AHA/HFSA focused update of the 2013 ACCF/AHA guidelines for the management of heart failure (ACC 2017)	American College of Cardiology, American Heart Association Task Force on Clinical Practice Guidelines, Heart Failure Society of America	ACC 2017 – Heart failure [39]
Heart failure (AND 2017)	Academy of Nutrition and Dietetics	AND 2017 – Heart failure [40]
2017 comprehensive update of the Canadian Cardiovascular Society guidelines for the management of heart failure (CCS 2017)	Canadian Cardiovascular Society	CCS 2017 – Heart failure [41]
CCS/CHFS heart failure guidelines: clinical trial update on functional mitral regurgitation, SGLT2 inhibitors, ARNI in HFpEF, and tafamidis in amyloidosis (CCS 2020 heart)	Canadian Cardiovascular Society, Canadian Heart Failure Society	CCS 2020 – Regurgitation [42]
Canadian Cardiovascular Society / Canadian Cardiac Transplant Network position statement on heart transplantation: patient eligibility, selection, and post-transplant care (CCS 2020 position)	Canadian Cardiovascular Society / Canadian Cardiac Transplant Network	CCS 2020 – Transplantation [43]
S3 Guideline on Cardiac Rehabilitation in German-speaking Europe: Germany, Austria, Switzerland (DGPR 2020)	German Society for Prevention and Rehabilitation, Swiss Working Group for Cardiovascular Prevention, Rehabilitation and Sports Cardiology, Austrian Society of Cardiology	DGPR 2020 – Rehabilitation [45]

Table 13: Guidelines that meet the stricter requirements and were relevant in terms of content to the respective DMP report (multi-page table)

Guideline (abbreviation in the respective DMP report)	**Publisher**	**Abbreviation**
Chronic heart failure in adults: diagnosis and management (NICE 2018)	National Institute for Health and Care Excellence	NICE 2018 – Heart failure [50]
National Care Guideline: Chronic Heart Failure (NVL 2021)	German Medical Association, National Association of Statutory Health Insurance Physicians, Association of Scientific Medical Societies	NVL 2021 – Herzinsuffizienz [51]
V21-05 DMP 'Obesity' (development of a new DMP)		
The Role of Weight Management in the Treatment of Adult Obstructive Sleep Apnoea (ATS 2018)	American Thoracic Society	ATS 2018 – Weight [59]
British Obesity and Metabolic Surgery Society Guidelines on perioperative and postoperative biochemical monitoring and micronutrient replacement for patients undergoing bariatric surgery – 2020 update (BOMSS 2020)	British Obesity and Metabolic Surgery Society	BOMSS 2020 – Bariatric [60]
S3 Guideline: Surgery for Obesity and Metabolic Disorders (DGAV 2018)	German Society for General and Visceral Surgery	DGAV 2018 – Adipositas Chirurgie [62]
S3 Guideline: Obesity and Pregnancy (DGGG 2019)	German Society for Gynaecology and Obstetrics, Austrian Society for Gynaecology and Obstetrics, Swiss Society for Gynaecology and Obstetrics	DGGG 2019 – Schwangerschaft [63]
Clinical practice guidelines of the European Association for Endoscopic Surgery (EAES) on bariatric surgery: update 2020 (EAES 2020)	European Association for Endoscopic Surgery	EAES 2020 – Bariatric [64]
Exercise training in the management of overweight and obesity in adults: Synthesis of the evidence and recommendations from the European Association for the Study of Obesity Physical Activity Working Group (EASO 2021)	European Association for the Study of Obesity	EASO 2021 – Exercise [65]

Table 13: Guidelines that meet the stricter requirements and were relevant in terms of content to the respective DMP report (multi-page table)

Guideline (abbreviation in the respective DMP report)	**Publisher**	**Abbreviation**
European Society of Endocrinology Clinical Practice Guideline: Endocrine work-up in obesity (ESE 2020)	European Society of Endocrinology	EAES 2020 – Bariatric [64]
Overweight, Obesity and Contraception (FSRH 2019)	Faculty of Sexual & Reproductive Healthcare	EASO 2021 – Exercise [65]
Obesity in adults: a clinical practice guideline (OC 2020)	Obesity Canada	ESE 2020 – Endocrine [66]
Care of Women with Obesity in Pregnancy: Green-top Guideline No. 72 (RCOG 2018)	Royal College of Obstetricians and Gynaecologists	FSRH 2019 – Contraception [67]
Screening for Prediabetes and Type 2 Diabetes (USPSTF 2021)	US Preventive Services Task Force	OC 2020 – Obesity [68]
Behavioral Weight Loss Interventions to Prevent Obesity-Related Morbidity and Mortality in Adults: US Preventive Services Task Force Recommendation Statement (USPSTF 2018)	US Preventive Services Task Force	RCOG 2018 – Pregnancy [70]
VA/DoD clinical practice guideline for the management of overweight and obesity in adults (VADoD 2020)	Department of Veterans Affairs, Department of Defence	USPSTF 2021 – Diabetes [74]

5.2 Research question 2

5.2.1 Data pool for the review of information sources

The analysis included those guidelines that met the stricter criteria from RQ 1 for the guidelines to be included. Table 13 shows the included guidelines for each DMP project.

5.2.2 Assessment of information sources for guidelines

Firstly, criteria (e.g. data scope, search interface and export options) were defined that the information sources should fulfil. Based on these criteria, particularly suitable information sources were selected that are known to provide the widest possible coverage of international and multidisciplinary guidelines and to offer an advanced search interface. The results of the assessment are shown in Table 14.

Table 14: Assessment of information sources for guidelines

Information source	Guideline scope	Availability of guidelines[a]	Search functionality	Export options and the scope and quality of reference generation[b]	Overall assessment
Guideline databases					
ECRI Guidelines Trust	International	→	↑	↑	↑
Guidelines International Network (GIN)	International	↑	↑	↑	↑
GuidelineCentral	International	↑	↑	↑	↑
Trip database	International	→	→	↑	→
Multidisciplinary guideline providers					
AWMF	National	↑	↑	→	↑
NICE	National	↑	↑	→	↑
SIGN	National	↑	→	→	→
WHO	International	↑	→	→	→
Bibliographic databases / Clinical information systems					
UpToDate	International	↑	→	↑	↑
PubMed	International	↑	↑	↑	↑

↑: good
→: acceptable
a. Access to the guideline was assessed ('Does clicking on the title lead to a new page (landing page), to the journal's website or the guideline provider's website, or simply to the PDF download?').
b. The following were assessed: the availability and quality of RIS export/import; the type of reference created (website, journal article); which fields are filled in and how they are filled in; and the inclusion of the URL, etc.

All information sources were rated as ‘good’ or ‘acceptable’ in the overall assessment. Nevertheless, there are further aspects that proved important when selecting information sources and which led to the prioritisation of certain information sources for further review. The bibliographic database PubMed, for example, was rated as ‘good’ across all criteria. However, a systematic search in PubMed for guidelines (e.g. using validated guideline filters) yields a very high number of hits, as demonstrated by the example search for the DMP project on coronary heart disease in Appendix D: Search strategies (between 1 873 and 12 286 hits). This makes information processing very resource-intensive. It was therefore examined at a later stage whether a search in PubMed could be dispensed with. The ECRI[28] database includes high-quality and up-to-date guidelines and thus meets the content requirements exactly. For these reasons, a search in ECRI should be prioritised. Furthermore, it should be examined whether certain other information sources can be dispensed with: For example, GIN is less suitable as it is a voluntary, membership-based database and coverage may therefore vary [78]. The Trip database should also be viewed critically due to the poor processing and presentation of results. For instance, the titles of the guidelines are not always unambiguous. The UpToDate clinical information system is subject to a fee and it should therefore be assessed whether it can be dispensed with.

5.2.3 Results of the analyses on the coverage of suitable information sources

In a subsequent step, the coverage of guidelines per DMP project that meet the stricter requirements from RQ 1 was determined for each assessed information source. For the DMP project on coronary heart disease, there were 10 guidelines; for the DMP project on depression, 8; for the DMP project on heart failure, 8; and for the DMP project on obesity, 13 guidelines. For the ECRI information source, the coverage could only be determined retrospectively to a limited extent, as this guideline database only contains guidelines from 2020 onwards. An overview of the coverage of the individual information sources is shown in Table 15.

[28] formerly the Emergency Care Research Institute

Table 15: Coverage of information sources

Information source	**V22-04 'Coronary heart disease' n = 10**	**V22-01 'Depression' n = 8**	**V20-05 'Heart failure' n = 8**	**V21-05 'Obesity' n = 13**	**∑ n = 39**
ECRI*	4	2	0	3	9
GIN	2	3	3	2	10
GuidelineCentral	5	3	2	3	13
Trip database	7	6	5	11	29
AWMF	3	1	2	2	8
NICE	1	1	1	0	3
SIGN	0	0	0	0	0
WHO	0	0	0	0	0
UpToDate	7	4	4	9	24
PubMed	7	8	8	12	35
*: includes guidelines from 2020 onwards.					

The coverage of the individual guidelines per DMP project is shown in Tables 25–28 in Appendix C of the full working paper.

The information sources SIGN[29] and WHO[30] did not contain any of the 39 guidelines and were therefore not considered further.

The coverage of various combinations of information sources are shown in Table 16.

[29] Scottish Intercollegiate Guidelines Network.

[30] World Health Organization

Table 16: Coverage of combinations of information sources

	Combinations of information sources	Coverage n = 39 guidelines
1	ECRI* + GIN + GC**	24
2	ECRI* + GC**	17
3	ECRI* + GIN + GC** + Trip	36
4	ECRI* + GC** + Trip	32
5	ECRI* + GIN + GC** + Trip + AWMF + NICE	37
6	ECRI* + GC** + Trip + AWMF + NICE	37
7	ECRI* + GIN + GC** + Trip + AWMF + NICE + UpToDate	37
8	ECRI* + GC** + Trip + AWMF + NICE + UpToDate	37
*: includes guidelines from 2020 onwards. **: GuidelineCentral.		

Not all possible combinations were examined; instead, based on the suitability of the information sources and the preliminary considerations outlined above, only the combinations of the guideline databases (ECRI, Guideline Central) with and without GIN or Trip were tested (e.g. lines 1 and 2, and 3 and 4). It was shown that GIN can be omitted (lines 6 and 8); whereas searching in Trip finds additional guidelines, as shown in lines 3 and 4. Furthermore, combinations with the multidisciplinary guideline providers AWMF[31] and NICE[32] were examined (lines 5 and 6), as these 2 websites are of particular importance in that they provide further relevant documents relating to the individual guidelines. Finally, it was examined whether additional guidelines were found exclusively via UpToDate (lines 7 and 8). An overview of the coverage of further combinations can be found in Appendix E: Coverage of further combinations of information sources.

The highest coverage was achieved by combining the guideline databases (ECRI + GuidelineCentral + Trip) with the multidisciplinary guideline providers AWMF and NICE (37/39) (line 6).

Two Canadian guidelines could not be identified using this combination, as they were not included in any of the information sources for the selected combination. The guideline ‘Canadian Cardiovascular Society / Canadian Cardiac Transplant Network position statement on heart transplantation: patient eligibility, selection, and post-transplantation care (CCS 2020 – Transplantation)’ [43] from the DMP project V20-05 on heart failure exclusively addresses patient eligibility and selection in relation to heart transplantation, as well as post-transplant care. However, the indication for transplantation is not determined by the coordinating doctor

[31] Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften e. V. (Association of the Scientific Medical Societies)

[32] National Institute for Health and Care Excellence

within the DMP. Omitting this guideline would therefore likely have no consequences for the update of the DMP-A-RL at the G-BA. The guideline 'Treatment-resistant major depressive disorder: Canadian expert consensus on definition and assessment' (ADAA[33] 2021 [25]) from the DMP project V22-01 on depression was of no great relevance to the report in terms of content; only a single discrepancy could be identified in it. Omitting this guideline would likewise have no major consequences for the report. There is also no indication that there is a fundamental problem with Canadian guidelines in the focused search, as other Canadian guidelines were identified.

In a further step, recall was assessed in the DMP project on coronary heart disease. This involved checking whether the guidelines could actually be found using a realistic search. A search was carried out using the search terms specified for the DMP project's original guideline search within the previously identified most efficient combination of information sources (ECRI, GuidelineCentral, Trip, AWMF and NICE). It was examined whether all guidelines could be identified using the search terms in the information sources, provided they were contained within an information source, and which search terms were used to find them. The following German and English search terms were tested:

- koronare Herzkrankheit, ischämische Herzkrankheit, Herz-Kreislauf-Erkrankung, kardiovaskuläre Erkrankung, Angina pectoris, Herzinfarkt, Myokardinfarkt, Myokardischämie, Koronarsyndrom
- coronary (heart/artery) disease, isch(a)emic heart disease, coronary isch(a)emia, cardiovascular disease, angina pectoris, myocardial infarction, myocardial isch(a)emia, coronary syndrome

All guidelines included in the information sources for the DMP project on coronary heart disease were identified using three search terms ("coronary artery disease", "coronary heart disease/koronare Herzkrankheit", and "coronary syndrome"). Future searches for guidelines for this DMP can therefore be conducted using fewer search terms.

[33] Anxiety and Depression Association of America

6 Discussion

Research question 1

The present analysis of selected guideline synopses for the updating of existing or development of new DMPs shows that applying stricter criteria for guideline inclusion substantially reduces the resources required for report preparation. On the other hand, the information content of the reports decreases to a lesser extent, and no relevant loss of information occurred in the guideline synopses examined.

In this report, the reduction in the number of discrepancies was taken as a surrogate for the relevant information that is lost by applying the stricter requirements for guideline inclusion in the report. However, this is only a rough measure, as individual discrepancies often address different aspects based on different guidelines. If individual guidelines are omitted from the report, it is therefore possible that certain aspects of a discrepancy may be lost. This means that, although the G-BA would still be informed that the topic of the discrepancy should be reviewed, the number of individual aspects for which a discrepancy between guideline recommendations and the DMP-A-RL was identified may be reduced by applying the stricter requirements for guideline inclusion.

Another important point that must be considered when interpreting the results for RQ 1 is that the number of discrepancies does not correlate with the relevance of the guidelines to the German healthcare context. The DMP was developed on the basis of high-quality guidelines that are relevant to the German healthcare context. When guideline recommendations are updated by guideline groups, this is done on the basis of new evidence. These changes to the guidelines generally lead to discrepancies being identified if a high grade of recommendation is present in the guideline synopses. Therefore, guidelines for which neither discrepancies nor potentially relevant or additional content were identified via the DMP reports examined were classified as only partially essential. The number of discrepancies identified per guideline should not be considered a measure of how relevant a guideline is to a guideline synopsis and the subsequent work of the G-BA. However, the healthcare context for which the guideline was developed, as well as its methodological quality and specific topic, are important aspects of a guideline's relevance.

Furthermore, the results of the present analysis show that, by applying the stricter criteria for guideline inclusion, none of the guidelines from certain professional societies – such as the ADA, the CCS or the ESC – are included in the guideline synopses.

Research question 2

Information retrieval for guideline synopses is currently carried out comprehensively across a wide range of information sources. An assessment of the coverage of the selected information sources, based on guidelines from 4 DMP projects, shows that it is possible to focus

information retrieval for DMP reports on just a few information sources (ECRI + GuidelineCentral + Trip + AWMF + NICE) without any relevant loss of information. This also means that, in future, it will no longer be necessary to search specialty-specific guideline providers, such as cardiology societies.

Only 2 guidelines could not be identified. These were the 'CCS 2020 – Transplantation' guideline [43] from the DMP project V20-05 on heart failure, and the 'ADAA 2021 – Treatment-resistant major depressive disorder' guideline [25] from the DMP project V20-05 on depression. In both cases, the failure to identify these guidelines has no impact whatsoever on the conclusions of the respective DMP reports and therefore does not justify the additional resources required for conducting a supplementary search among specialty-specific guideline providers. Although both cases involve Canadian guidelines, there is no indication that there is a fundamental problem with Canadian guidelines in the focused search, as other guidelines from Canada were identified.

It appears that these results could be transferred to other DMP projects or other projects aimed at identifying high-quality guidelines; however, this should be evaluated further. As part of this evaluation, when applying the new approach, it can be assessed in parallel whether relevant guidelines were identified, for example, solely through the commenting procedure on the preliminary report. A cursory internet search via Google should also be carried out to check whether any important guidelines have been overlooked.

A simulation of a realistic search also demonstrated that this focused approach to guideline searches is feasible. All guidelines from the example project were identified using the specified terms and the selected combination of information sources.

Assessment of information sources

As ECRI contains only recent (up to 5-year-old) guidelines (currently from 2020 onwards) and the majority of the guidelines examined in the analysis are older, it is to be expected that the database will achieve higher coverage in a current search. This should be monitored in future, as it may allow for a further restriction of the information sources or the omission of an additional cursory check.

The strict inclusion criteria for a guideline to be included in this database also support the use of ECRI as the primary information source.

There are further advantages to the database: it is updated weekly; new guidelines are continuously added and existing ones updated. ECRI has been collaborating for almost 30 years with organisations that develop guidelines and submit them directly to ECRI. Furthermore, a rigorous process is in place to identify new and updated guidelines, including monitoring medical journals and news reports, as well as regularly reviewing the websites of

guideline developers. Once guidelines have been submitted or identified, they are assessed by means of the inclusion criteria. Only guidelines that have been published or updated within the last 5 years and are evidence-based are included. However, the inclusion criteria are somewhat stricter than those defined. This fact should also be borne in mind.

One shortcoming of the search using the selected combination of information sources is the difficulty of searching the Trip guideline database. This information source was rated only as 'acceptable' in the assessment of information sources. Searching the database is difficult because, amongst other things, the names of the guidelines are not always unambiguous. As our analysis has shown, they do not always correspond to the exact title. Three guidelines from the DMP project on obesity, which were only indexed in Trip, were found under the 'Primary Research' category, not under 'Guidelines'.

Further future DMP projects should be used to verify whether searching the Trip guideline database could be replaced by other information sources.

The analysis also showed that the national multidisciplinary guideline providers AWMF and NICE are indispensable information sources, as they also provide further information and all accompanying documents relating to the individual guidelines.

A future search could be structured as follows: first, a search is conducted on the AWMF and NICE websites, as important accompanying documents can be downloaded in addition to the guidelines. This should be followed by a search in ECRI and, as a supplement, in GuidelineCentral and the Trip database. As a safeguard of the search results, a cursory internet search is then conducted using Google or Google Scholar.

The result of the analysis and the recommendations for future searches require professional structures and sound specialist knowledge in the field of information retrieval, drawing upon information specialists. If this expertise cannot be fully guaranteed, it is advisable to search further sources.

7 Conclusion

The analysis showed that the examined approaches to reducing the resources required for guideline searches and selection for DMP reports are feasible without any relevant loss of information.

A systematic, focused search for guidelines in ECRI, GuidelineCentral, the Trip database, AWMF and NICE appears to be sufficient. In addition, as a safeguard, a cursory check can be conducted via a generic internet search using Google or Google Scholar.

Furthermore, it is sufficient to include guidelines only if they meet the following requirements: a standardised Domain 3 score of at least 30% in AGREE II, no guidelines adopted or adapted from guidelines already included, a thematic focus on the disease of interest, and transparent information on a systematic literature search.

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Appendices

Appendices A-C: not translated

- Appendix A: Research question 1 – Information retrieval: guidelines included in the analysis
- Appendix B: Research question 1 – Information synthesis: discrepancies identified
- Appendix C: Research question 2 – Coverage of individual guidelines per DMP project

Appendix D: Search strategies

Bibliographic databases

Search for guidelines

MEDLINE

Search interface: PubMed

Search date: 29.01.2026

The following filters were evaluated:

- MD Anderson Library, 2017 [79]
- CADTH guidelines filter – broad 2022 [80]
- Guidelines – Standard – PubMed [81]
- University of Texas Consensus statements/guidelines (12/2/2015) [82]
- University of Texas Guidelines/Recommendations (revised 12/03/2015) translated for PubMed [83]

#	Searches	Hits	Comment
0	(31194478 OR 34882436 OR 34709879 OR 30423391 OR 36085185 OR 33301270 OR 32956597)	7	Relevant guidelines from the Coronary Heart Disease Project that are indexed in PubMed
1	Coronary Artery Disease[Majr]	72646	
2	coronary artery disease*[tiab] OR cardiovascular disease*[all] OR coronary syndrome*[tiab]	577852	
3	#1 OR #2	607731	
4	#3 AND (english[LA] OR german[LA])	568890	
5	#4 AND 2019:2022[DP]	124817	
6	"Guideline"[Publication Type] OR "Practice Guideline"[Publication Type] OR "Consensus"[Mesh] OR "Consensus Development Conference, NIH"[Publication Type] OR "Consensus Development Conference"[Publication Type] OR consensuses[ti] OR consensus[ti] OR "position statement"[ti] OR "position statements"[ti] OR "practice parameter"[ti] OR "practice parameters"[ti] OR "appropriate use criteria"[ti] OR "appropriateness criteria"[ti] OR "guidance statement"[ti] OR "guidance statements"[ti] OR guideline[ti] OR guidelines[ti]	187918	MD Anderson Library, 2017
7	#5 AND #6	1873	
8	#0 AND #7	7	

#	Searches	Hits	Comment
9	"Clinical protocols"[MESH] OR "Consensus"[MESH] OR "Consensus development conferences as topic"[MESH] OR "Critical pathways"[MESH] OR "Guidelines as topic" [Mesh:NoExp] OR "Practice guidelines as topic"[MESH] OR "Health planning guidelines"[MESH] OR "Clinical Decision Rules"[MESH] OR "guideline"[pt] OR "practice guideline"[pt] OR "consensus development conference"[pt] OR "consensus development conference, NIH"[pt] OR "position statement*"[tiab] OR "policy statement*"[tiab] OR "practice parameter*"[tiab] OR "best practice*"[tiab] OR standards[TI] OR guideline[TI] OR guidelines[TI] OR standards[ot] OR guideline[ot] OR guidelines[ot] OR guideline*[cn] OR standards[cn] OR consensus*[cn] OR recommendat*[cn] OR "practice guideline*"[tiab] OR "treatment guideline*"[tiab] OR CPG[tiab] OR CPGs[tiab] OR "clinical guideline*"[tiab] OR "guideline recommendation*"[tiab] OR consensus*[tiab] OR ((critical[tiab] OR clinical[tiab] OR practice[tiab]) AND (path[tiab] OR paths[tiab] OR pathway[tiab] OR pathways[tiab] OR protocol*[tiab] OR bulletin[tiab] OR bulletins[tiab])) OR recommendat*[ti] OR recommendat*[ot] OR (care[tiab] AND (standard[tiab] OR path[tiab] OR paths[tiab] OR pathway[tiab] OR pathways[tiab] OR map[tiab] OR maps[tiab] OR plan[tiab] OR plans[tiab])) OR (algorithm*[tiab] AND (screening[tiab] OR examination[tiab] OR test[tiab] OR tested[tiab] OR testing[tiab] OR assessment*[tiab] OR diagnosis[tiab] OR diagnoses[tiab] OR diagnosed[tiab] OR diagnosing[tiab])) OR (algorithm*[tiab] AND (pharmacotherap*[tiab] OR chemotherap*[tiab] OR chemotreatment*[tiab] OR therap*[tiab] OR treatment*[tiab] OR intervention*[tiab]))	1950669	CADTH guidelines filter – broad, 2022
10	#5 AND #9	12286	
11	#0 AND #10	7	

#	Searches	Hits	Comment
12	"Guideline"[pt] OR "practice guideline"[pt] OR "consensus development conference"[pt] OR "consensus development conference, NIH"[pt] OR guideline*[ti] OR standards[ti] OR consensus*[ti] OR recommendat*[ti] OR guideline*[cn] OR standards[cn] OR consensus*[cn] OR recommendat*[cn] OR "practice parameter*"[ti] OR "position statement*"[ti] OR "practice bulletin*"[ti] OR "policy statement*"[ti] OR CPG[ti] OR CPGs[ti] OR "best practice*"[ti] OR (care[ti] AND (path[ti] OR paths[ti] OR pathway[ti] OR pathways[ti] OR map[ti] OR maps[ti] OR plan[ti] OR plans[ti] OR standard[ti])) OR ((critical[ti] OR clinical[ti] OR practice[ti]) AND (path[ti] OR paths[ti] OR pathway[ti] OR pathways[ti] OR protocol*[ti])) OR (algorithm*[ti] AND (pharmacotherap*[ti] OR chemotherap*[ti] OR chemotreatment*[ti] OR therap*[ti] OR treatment*[ti] OR intervention*[ti])) OR (algorithm*[ti] AND (screening[ti] OR examination[ti] OR test[ti] OR tested[ti] OR testing[ti] OR assessment*[ti] OR diagnosis[ti] OR diagnoses[ti] OR diagnosed[ti] OR diagnosing[ti])) OR guideline*[ot] OR standards[ot] OR consensus*[ot] OR recommendat*[ot] OR "practice parameter*"[ot] OR "position statement*"[ot] OR "practice bulletin*"[ot] OR "policy statement*"[ot] OR CPG[ot] OR CPGs[ot] OR "best practice*"[ot] OR (care[ot] AND (path[ot] OR paths[ot] OR pathway[ot] OR pathways[ot] OR map[ot] OR maps[ot] OR plan[ot] OR plans[ot] OR standard[ot])) OR ((critical[ot] OR clinical[ot] OR practice[ot]) AND (path[ot] OR paths[ot] OR pathway[ot] OR pathways[ot] OR protocol*[ot])) OR (algorithm*[ot] AND (pharmacotherap*[ot] OR chemotherap*[ot] OR chemotreatment*[ot] OR therap*[ot] OR treatment*[ot] OR intervention*[ot])) OR (algorithm*[ot] AND (screening[ot] OR examination[ot] OR test[ot] OR tested[ot] OR testing[ot] OR assessment*[ot] OR diagnosis[ot] OR diagnoses[ot] OR diagnosed[ot] OR diagnosing[ot])) OR (("Systematic review"[ti] OR "systematic review"[pt] OR "systematic review"[ot]) AND ("practice guideline*"[tiab] OR "treatment guideline*"[tiab] OR "clinical guideline*"[tiab] OR "guideline recommendation*"[tiab]))	346061	Guidelines – Standard – PubMed
13	#5 AND #12	2756	
14	#0 AND #13	7	
15	(clinical[tiab] AND pathway[tiab]) OR (clinical[tiab] AND pathways[tiab]) OR (practice[tiab] AND parameter[tiab]) OR (practice[tiab] AND parameters[tiab]) OR algorithms[mesh:noexp] OR care pathway[tiab] OR care pathways[tiab] OR clinical protocols[mesh:noexp] OR Consensus[mesh:noexp] or consensus development conference[pt:noexp] OR "Consensus Development Conference, NIH"[pt:noexp] OR "Consensus Development Conferences as Topic"[Mesh:noexp] OR "Consensus Development Conferences, NIH as Topic"[Mesh:NoExp] OR critical pathway[mesh:noexp] OR guidance[tiab] OR guideline*[ti] OR guidelines as topic[mesh:noexp] or practice guidelines as topic[mesh:noexp] or Health Planning Guidelines[mesh:noexp] OR practice guideline[mesh:noexp]	1117019	University of Texas Consensus statements / guidelines
16	#5 AND #15	6486	

#	Searches	Hits	Comment
17	#0 AND #16	6	
18	("clinical"[tiab] AND "pathway"[tiab]) OR ("clinical"[tiab] AND "pathways"[tiab]) OR ("practice"[tiab] AND "parameter"[tiab]) OR ("practice"[tiab] AND "parameters"[tiab]) OR "algorithms"[mesh:noexp] OR "care pathway"[tiab] OR "care pathways"[tiab] OR "clinical protocols"[mesh:noexp] OR "Consensus"[mesh:noexp] OR "Consensus Development Conference"[pt:noexp] OR "Consensus Development Conference, NIH"[pt:noexp] OR "Consensus Development Conferences as Topic"[mesh:noexp] OR "Consensus Development Conferences, NIH as Topic"[mesh:noexp] OR "critical pathway"[mesh:noexp] OR "guidance"[tiab] OR guideline*[ti] OR "guidelines as topic"[mesh:noexp] OR "practice guidelines as topic"[mesh:noexp] OR "Health Planning Guidelines"[mesh:noexp] OR "practice guideline"[pt:noexp]	1127340	University of Texas Guidelines / Recommendations (revised 12/03/2015) translated for PubMed
19	#5 AND #18	6552	
20	#0 AND #19	7	

Appendix E: Coverage of further combinations of information sources

Combination of information sources	Coverage n = 39 guidelines
ECRI* + GIN + GC** + AWMF + NICE	27
ECRI* + GC** + AWMF + NICE	27
ECRI* + GIN + GC** + UpToDate	31
ECRI* + GC** + UpToDate	26
ECRI* + GIN + GC** + UpToDate + AWMF + NICE	34
ECRI* + GC** + UpToDate + AWMF + NICE	34
Trip + UpToDate	31
Trip + AWMF + NICE	34
Trip + UpToDate + AWMF + NICE	36
*: includes guidelines from 2020 **: GuidelineCentral	