

Validation of the AI-based early reimbursement planning search engine in main European countries and the USA

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INTRODUCTION

In the field of **early reimbursement planning**, access to precise and up-to-date information is essential for efficient strategic planning and market access of medical devices and drugs. AI powered search engines like mAxInsights® offer **new opportunities** to enhance the efficiency and speed of information retrieval. However, to ensure the reliability and accuracy of this AI-driven platform, a **systematic validaiton** is crucial. By developing a validation process for mAxInsights®, we aim to guarantee that the data obtained meets the **high standards regulatory requirements** across various countries, theereby providing a solid foundation from informed **decision making**.

OBJECTIVE

The reimbursement planning phase consists mainly of three key components:

- **Payer assessment of clinical data**
- **Coding and price levels**
- **Reimbursement pathway**

The aim of the study is to examine whether **AI-based** search engines can provide **reliable data** for **early reimbursement planning** in France, Italy, Germany, Netherlands, Spain, UK, USA. The search was conducted with **mAxInsights®**, an AI-based search engine.

METHOD

Defintion of **eight clinical test cases** for the **validation**.

Analysis of the **same test cases** in relation to the **country-specific codes** for each country.

The **AI-based search engine** mAxinsights® takes the codes from the specific test cases in **given datafiles** and **online**.

The results are **compared** to the **best-case** results provided by **human country experts**.

Each result is **compared** and adjusted using the platforms' **various search functions** until they approximately match.

RESULTS

The **AI-based search engine** delivers almost all the codes expected by the country experts after at least three search runs with keywords added for each test case. In seven out of eight test cases, mAxInsights® has a **hit rate of 85 to 100%**. It also offers **additional codes** which have not been identified by human experts.

The example of the UK is used to illustrate the process.

Since there can be many different codes for one indication, it is necessary to specify the search. This is done using so-called keywords.

On the basis of **paralysis of vocal cords and larynx** mAxInsights® needed three search runs.

1. Search with the ICD code: **Paralysis of vocal cords and larynx**
2. Search with several keywords that are related to the ICD code: **Other specified excision of larynx, Division of stenosis of larynx, Insertion of prosthesis into larynx, Open biopsy of lesion of larynx**
3. Advanced search with organs: **Mouth, throat, larynx**

Test Metrics UK			
Test cases	ICD Codes found by Maxinsights	OPS Coding found by Maxinsights	HRG Coding found by Maxinsights
Paralysis of vocals cords and	100%	41%	0%
Breast cancer	100%	100%	94%
Colon cancer	100%	0%	0%
Urethral stricture	100%	15%	0%
Ulnar nerve injury	100%	11%	0%
Hypertension - essential	100%	0%	0%
Congestive heart failure	30%	33%	0%
Chronic Renal Insufficiency	100%	31%	28%

Results of the search in mAxInsights before adding keywords.

Test Metrics UK			
Test cases	ICD Codes found by Maxinsights	OPS Coding found by Maxinsights	HRG Coding found by Maxinsights
Paralysis of vocals cords and	100%	100%	100%
Breast cancer	100%	100%	94%
Colon cancer	100%	93%	100%
Urethral stricture	100%	94%	100%
Ulnar nerve injury	100%	85%	100%
Hypertension - essential	100%	100%	100%
Congestive heart failure	30%	67%	100%
Chronic Renal Insufficiency	100%	100%	100%

Results of the search in mAxInsights after three search runs with keywords.

CONCLUSIONS

Validation confirms that **AI-driven** platforms like mAxInsights® deliver **dependable and accurate** reimbursement-related data across **multiple countries**. This capability not only ensures access to **relevant codes** but also frequently reveals additional, previously unconsidered codes that may be critical for complex test cases.

Through the application of AI technology, a process that traditionally requires up to six months can now be completed in a mere **2–5 days**. This **drastic reduction in time** highlights the efficiency gains achievable through AI-enhanced tools, which enable faster, data-driven decision-making. Combining advanced AI algorithms with **human expertise**, mAxInsights® exemplifies the potential of integrating digital innovation with domain-specific knowledge, resulting in a highly efficient and reliable approach to reimbursement planning.

REFERENCES

mAxInsights® and data from external country experts

CONTACT

