



Accelerating the adoption of digital innovation across the NHS

Claire Harrison

Chief digital and technology officer,
Medicines and Healthcare products
Regulatory Agency



#bettercarecostsless



Medicines & Healthcare products
Regulatory Agency

Accelerating the adoption of digital innovation across the NHS

Claire Harrison
Chief Digital and Technology Officer



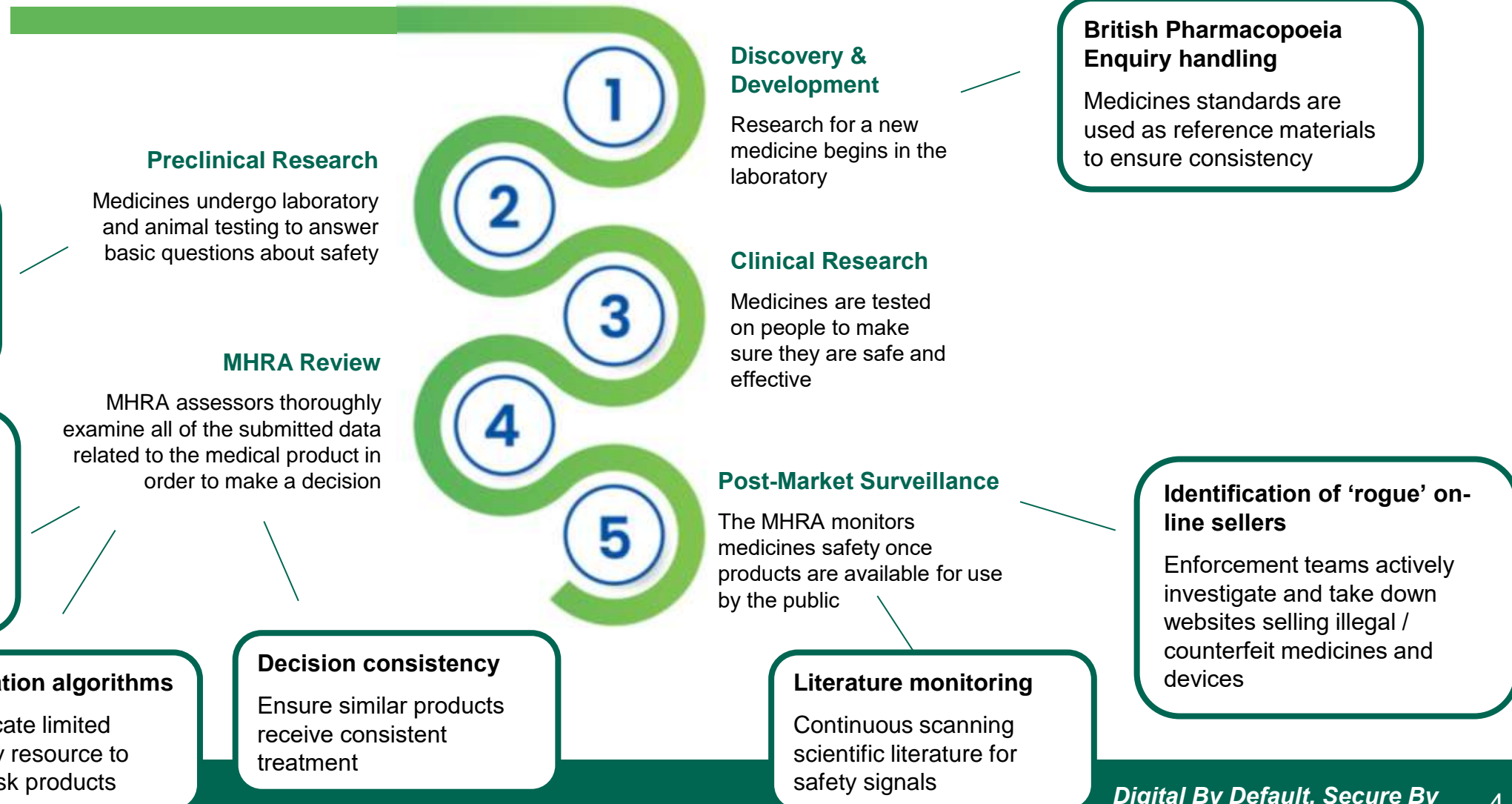
AI In MHRA



As a science-led organisation, the MHRA has a key role to play in enabling the UK to be a science and technology superpower by 2030. The agency is considering the opportunities and risks of Artificial Intelligence (AI), which has been identified as one of the five critical technologies in the UK Science and Technology Framework, from three different perspectives.

1. **As a regulator of AI products that impact on public and patient safety.**
2. **As a public service organisation delivering time critical decisions.**
3. **As an organisation that makes evidence-based decisions where that evidence is supplied by third parties.**

Product Lifecycle – AI Proof Of Concept Projects



Challenges and Opportunities

We have identified ~20 use cases for prototyping with different technologies with different AI paradigms. Use-cases range from productivity, through to decision making across all areas of the business, including communications, customer service and Helpdesk; as well as across the regulatory activities for the whole product lifecycle, including post-market surveillance. We take a *risk-proportionate* approach tailored to each use-case rather than a 'one size fits all' *risk-averse* approach.

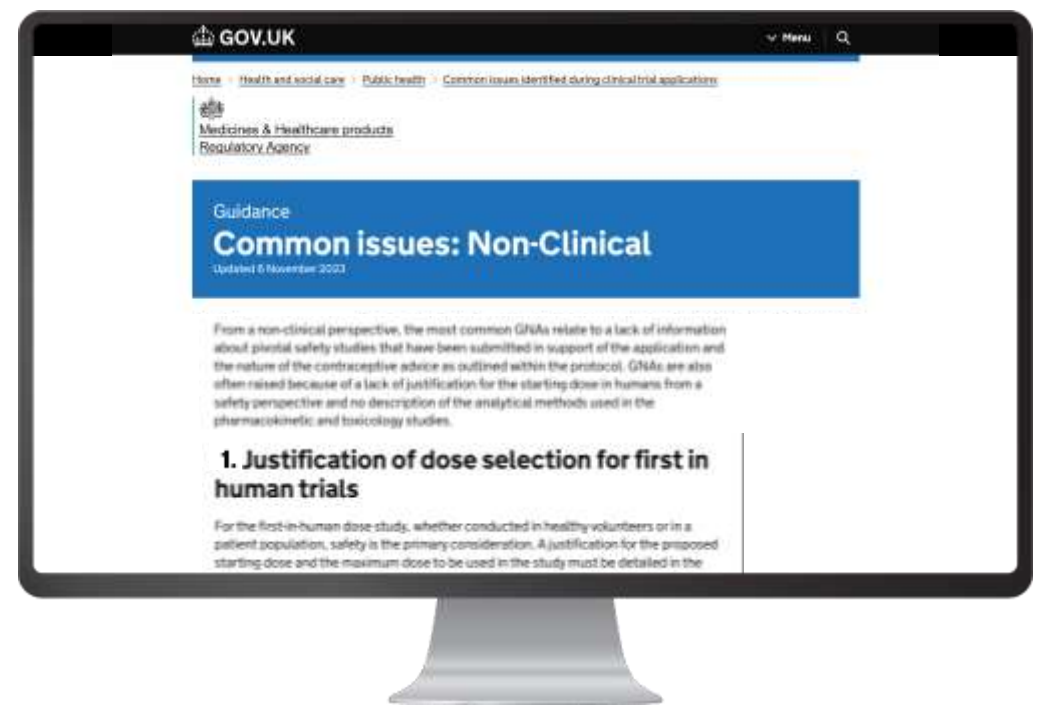
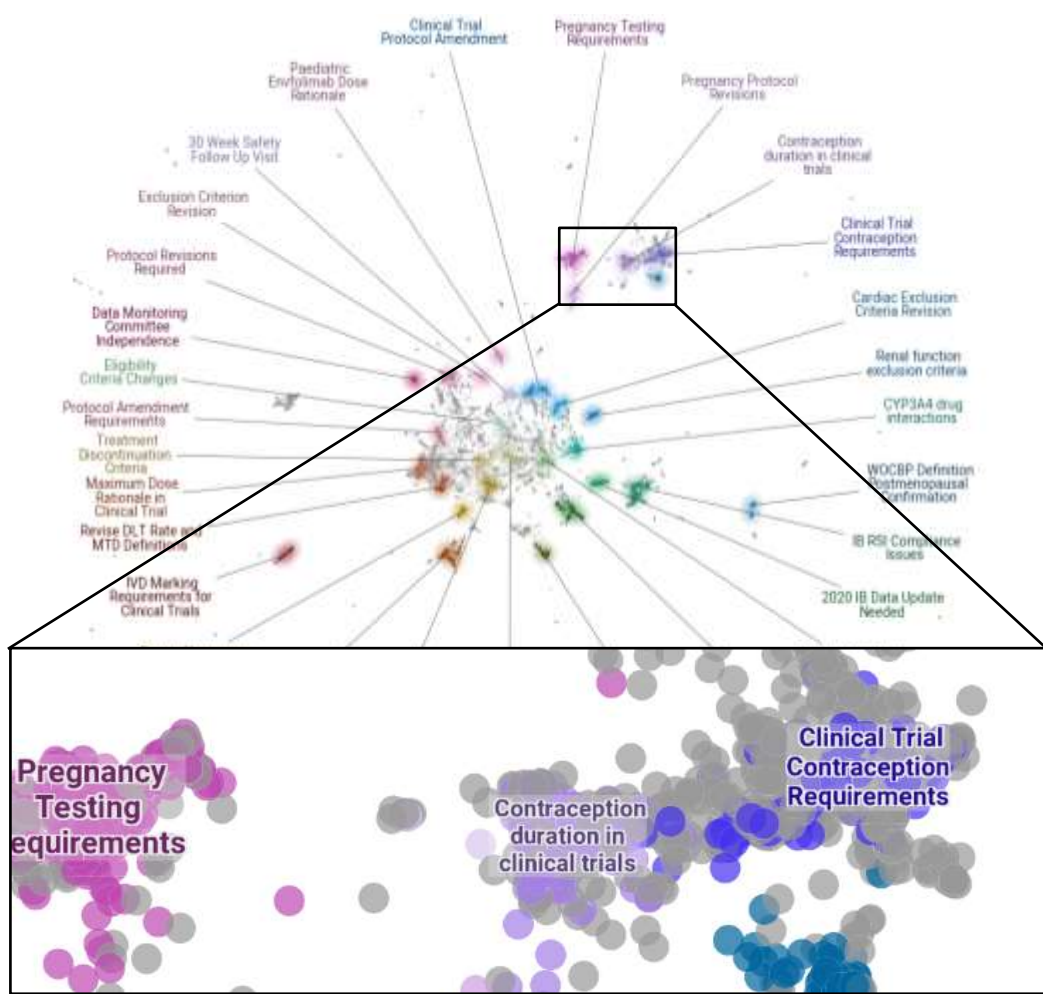


We have updated our 12-month technology roadmap with emphasis on three strategic themes: **innovation**, **technology modernisation**, and **cybersecurity** which are fundamental to the successful deployment of AI. We also have a refreshed plan for information governance and data protection policies as well as for new ways of working.

AI for Clinical Trials



Solution 1: Data Driven Guidance for Applicants (Proof of Concept)



Solution 2: Good Manufacturing Practice – Interface (Proof of Concept)

Medicines & Healthcare products
Regulatory Agency

AI Clinical Trial Platform

HomeSmart SearchGMP Compliance CheckerLog out

This is a new service – your feedback will help us to improve it.

Back

GMP Compliance Checker

Upload all relevant documents for processing

You can upload the following document types:

- Application form (Also known as 'Medicines Information Form' or 'Annex 1')
- Investigational Medicinal Product Dossier (IMPD) and SmPC
- Manufacturer's authorization (MIA (IMP))
- Qualified person's declaration (QP)

Only the following file types can be uploaded: pdf, doc.

Do not upload any other types of documents because only the specified file formats are accepted by the system. Attempting to upload anything else may result in errors.

IMPD_Doc1 X

Application form_Doc1 X

MIA(MP)_Doc1 X

MIA(MP)_Doc2 X

Choose filesNo file chosen

Reference

This could be an IRAS ID

Submit files for processing

Medicines & Healthcare products
Regulatory Agency

AI Clinical Trial Platform

HomeSmart SearchGMP Compliance Checker

This is a new service – your feedback will help us to improve it.

Back to Search history

GMP Compliance Checker

Results

Reference XXXX
Date: 17/02/2025 15:51

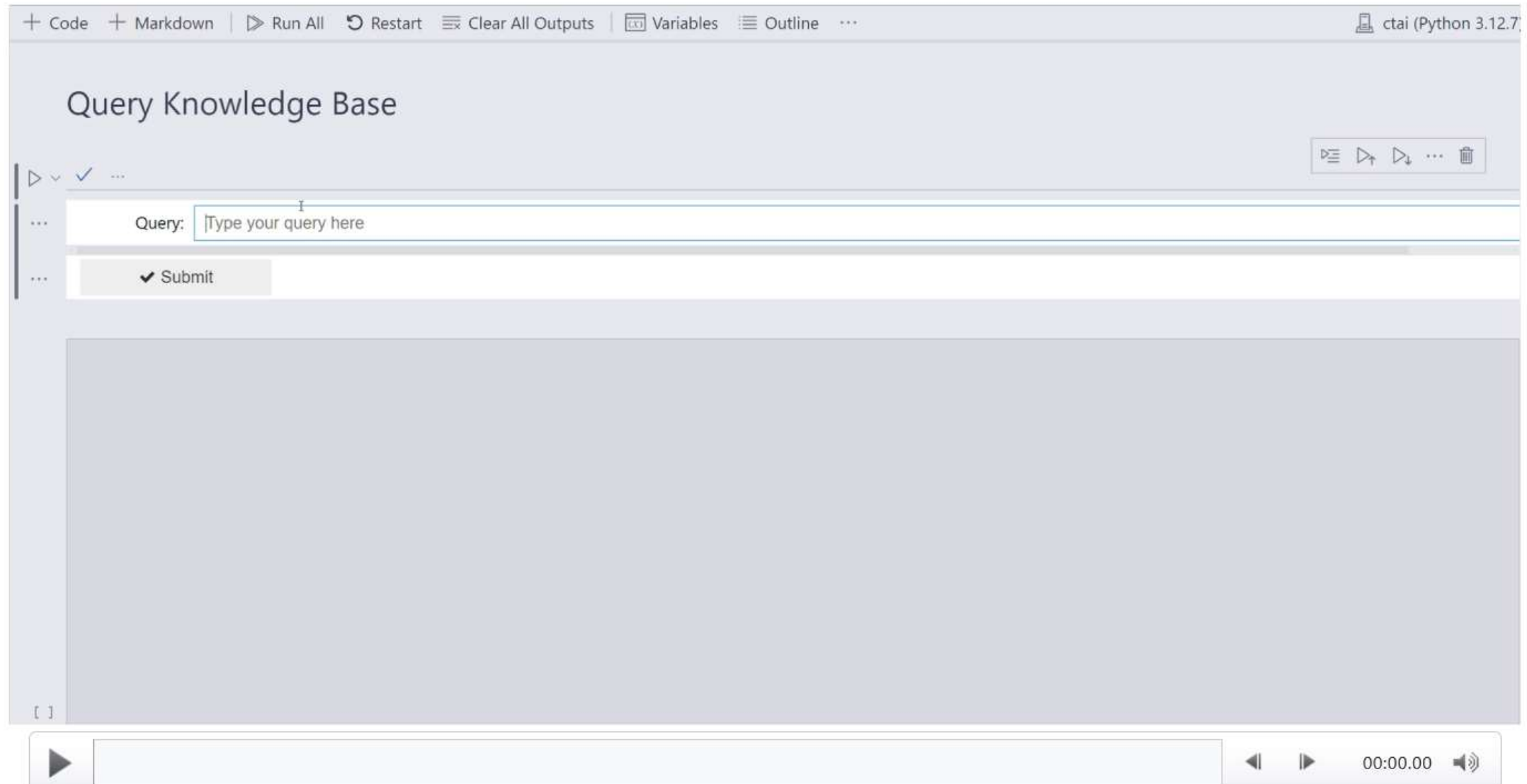
[What is 'Match Confidence'?](#)[What is 'Matched Activity'?](#)[Copy all tables to clipboard](#)

PR 1


Copy individual table to clipboard

IMPD Address	MIA(MP) / QP Address	Address Match Confidence	IMPD Activity	MIA(MP) Extracted Activity (Matched Activity)	Activity Match Confidence	MIA(MP) / QP Authorisation Date	MIA(MP) / QP Authorisation No.
123 Pharma Manufacturing Rd, Industry Park, IP 45678, USA	123 Pharma Manufacturing Rd, Industry Park, IP 45678, USA	100	QC Testing	1.2.7 QC Testing	100	23/03/2025	123456
123 Pharma Manufacturing Rd, Industry Park, IP 45678, USA	123 Pharma Manufacturing Rd, Industry Park, IP 45678, USA	100	Labelling	1.3.3 Secondary Packaging (Labelling)	90	30/12/2021	987654
456 Medicines Warehouse, Glass Avenue, Norfolk, NR 18 5GP	456 Medicines Warehouse, Glass Avenue, Norfolk, NR 18 5GP	90	Import	2.2.2 Import	100	05/02/2023	456789

Solution 3: AI-enabled Knowledge Hub Demo – (Proof of Concept)



Solution 3: AI-enabled Knowledge Hub Interface (Proof of Concept)



Medicines & Healthcare products
Regulatory Agency

CT Assessment - AI Support Tool

[Home](#) | [Smart Search](#) | [GMP Compliance Checker](#) | [Log out](#)

This is a new service – your [feedback](#) will help us to improve it.

[Back](#)

Smart Search

Select your search type:

☐ Assessment reports

☒ Grounds for Non-Acceptance (GNAs)

Enter query

[How should I write my query?](#)

Filter assessment reports by

Selected filters

×

Toxicology

×

GNAs issued

[Clear all filters](#)

Report Type

☒ Toxicology

☐ Pharmaceutical

☐ Medical

Status

☒ GNAs issued

☐ Rejected

GNA Date

Filter by the date the GNA was issued.

Start Date

End Date

[Apply filters](#)

[Search](#)

Search Results

Selected query type

☒ Grounds for Non-Acceptance (GNAs)

Filter assessment reports by

Selected filters

×

Toxicology

×

GNAs issued

×

Rejected

[Clear all filters](#)

[Show filters](#)

[Search again](#)

3 results

Sort by

Most relevant

☒ Most relevant

☐ Newest to Oldest

☐ Oldest to Newest

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

...

Read more

British Pharmacopoeia Enquiry Handling





Sign Out



Medicines & Healthcare products Regulatory Agency

BP AI Assistant

Good afternoon, I have a query regarding the monograph for tramadol capsules. When monographs state, for example, that the GF/A glass fibre filter is suitable, is this a recommendation? Could I use, for instance, a 0.45-micron syringe filter instead? I look forward to your prompt response. Thank you in advance. Best regards.



AI Assistant

Dear BP User,

Thank you for your query regarding the monograph for tramadol capsules. When the monograph states that a specific filter, such as the GF/A glass fibre filter, is suitable, it is indeed a recommendation. However, you are not restricted from using alternative filters, such as a 0.45-micron syringe filter, as long as these alternative methods are known to provide results of equivalent accuracy. This flexibility is outlined in the General Notices Part 2 of the BP.

I hope this information clarifies your query. If you require further assistance, please do not hesitate to reach out.

Thank you,

The MHRA Team

References:

- 1 Query Regarding Filters
- 2 Query Regarding Filters
- 3 Change proposal Tamsulosin Prolonged release Capsules
- 4 Query regarding the monograph for tramadol capsules

Ask anything...



Fighting illicit websites with AI



Focus On Illicit Websites – (Proof of Concept)

Problem

TRI partnered with the MHRA to combat the issue of websites selling medicines to the UK public illegally (without the required prescription, for example) - work that until now had been manual and time-consuming.

Solution + Impact

We developed an AI-powered tool that detects and analyses fraudulent online platforms. The tool uses web scraping to collect potentially suspicious URLs and leverages machine learning and Natural Language Processing (NLP) models for classification, identifying websites as red (high risk), amber (moderate risk), or green (low risk)

Identify suspicious sites

10x faster

turning a



30-hour

task into a

3-hour

task

Key Benefits and Impact

DATE OF RUN	TOTAL URL COUNT	RAG RATING
12.12.2024	266	<div>12 Red </div> <div>178 (114 forbids scrapping + 64 analysis performed) Amber</div> <div>75 Green </div>

Benefits

✓ Customisable & Scalable

Adaptable for various regulatory needs, with modular design for future enhancements.

✓ Proactive Fraud Detection

Identifies emerging threats before they escalate.

✓ Efficiency & Automation

Reduces manual workload for enforcement teams

✓ Data-Driven Decision Making

Provides detailed insights into fraudulent trends and compliance issues.

Code Green!

Generating one AI image takes as much energy as fully charging a smartphone

AI's carbon footprint is approaching 1% of global emissions

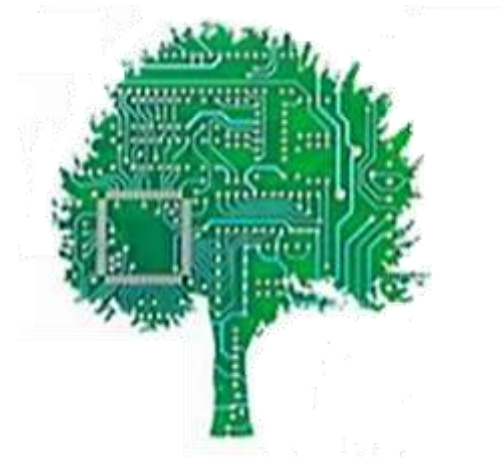
'The Cloud' now has a larger carbon footprint than the entire aviation industry

What we must address

Along with the responsibility to keep our digital solutions safe, agile and modern, technology innovation brings an additional responsibility – sustainable computing or Green IT.

Green IT refers to designing, using, and managing digital solutions and technologies in an environmentally responsible manner.

MHRA is committed to doing what we can to create a more sustainable technology ecosystem that benefits users and the planet. **Code Green!**



Things we can do to improve

Assess the location of agency servers

Reduce our power consumption

Best practice engineering
Code Green!



Medicines & Healthcare products
Regulatory Agency

Thank you

