# Improving the efficiency and effectiveness of pharmacy inspections

**Delivering greater public protection** 

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#### **Overview**

Introduction Inspections at the GPhC • Challenges and background

• What we methodology changed and why • Early insights – is it working Inspection

Risk model Motivation • How we did it • What we found Implementation • Is it working

 Questions Next steps

#### What we do...

- Maintain a register
- Set standards for pharmacy professionals
- Set education & training standards for pharmacy professionals
- Set standards for registered pharmacy premises
- Inspect pharmacy premises

**Inspection Model** 



#### What have we changed?

- Introduced focused inspections
- Enabled re-inspections to be conducted at any time up to six months
- Introduced virtual desktop re-inspections
- Introduced shorter inspection reports
  - simplified table of evidence
  - areas for improvement

#### **Background to the changes**

- Fewer inspections post COVID
- More new pharmacies
- Growth in online pharmacies
- Increasing complexity of pharmacy services
- Exponential growth in concerns raised with us

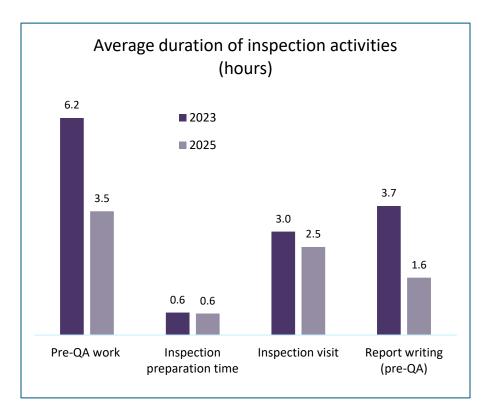
#### Aims of the changes

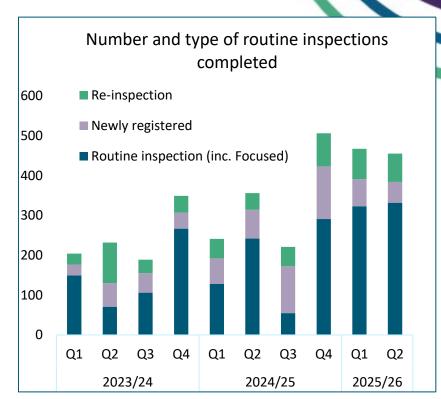
- More targeted inspection activity to focus on areas of higher risk
- More timely follow up when standards have not been met
- More time in pharmacies increased visibility
- More consistent approach across the Inspectorate
- Reduced time taken to produce inspection reports
- More time for inspector input into investigations

#### How do we prioritise our inspections?

- Re-inspections
- First inspections of new premises
- "Older" inspections
- Risk-based inspections

# Early insights...





#### **Risk Model**



## Why a risk model

- Allows us to
  - Understand the pharmacy portfolio
  - Anticipate problems
  - More effective and timely inspections

## **Building a risk model**

Identifying factors

Data collation and cleaning

Check each factor for significance

Data balancing

Logistic regression model to see how factors come together

Extract 'risk weighting' for each factor Calculate risk score for each pharmacy. Portfolio view

Test with inspection team and refine

#### Developing the risk model

All factors



Significant factors



Predictive factors

26 Inspection data

Pharmacy services

Registration data

Pharmacy ownership

Geography

**Enforcement history** 

No. of concern related visits before this inspection

No. failed inspection in previous 5 years

No. FtP concerns linked to pharmacy in past 5 years

**Vaccinations** 

Prescribing services (on premises)

Ownership size

Online/ distance selling

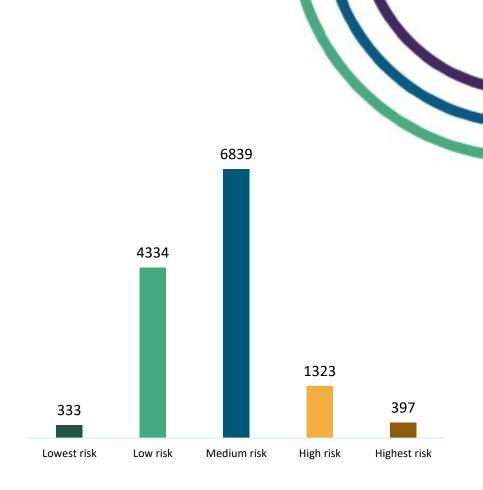
#### **Confusion matrix**

Predicted			
Observed	Υ	N	% Correct
Υ	396	192	67.3
N	186	407	68.6
% Correct			68.0

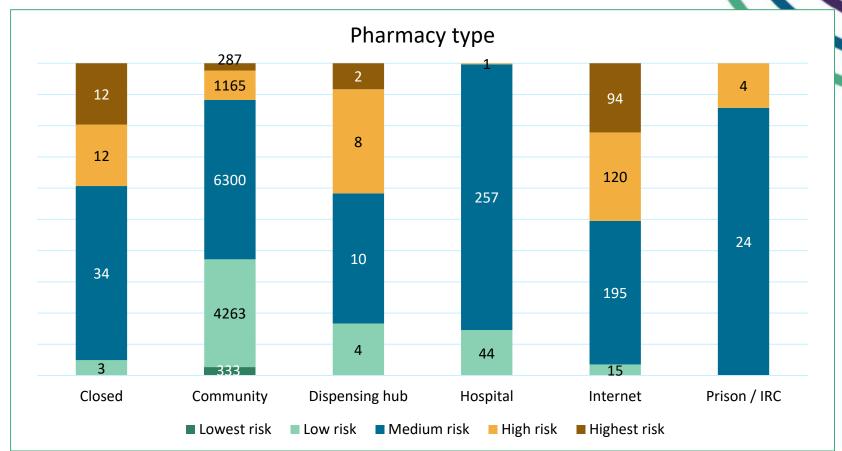
Note. The cut-off value is set to 0.5

#### Risk weighting

- Risk model allows us to calculate a risk score for every pharmacy currently on the register
- Grouped pharmacies in one of 5 bands from lowest risk to highest risk
- Most pharmacies fall in the low and medium bands



#### What we found

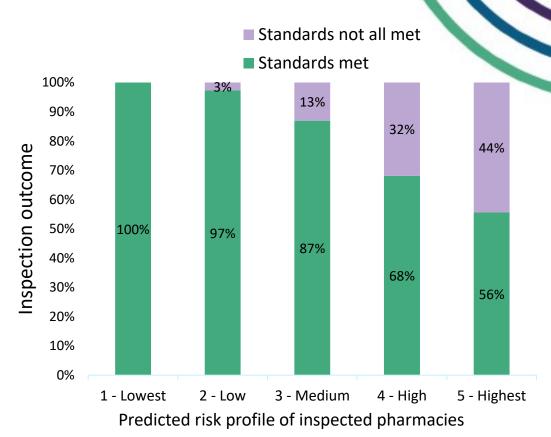


#### **Implementation**

- Incorporated into internal pharmacy data portal
- Higher risk pharmacies prioritised in inspection scheduling

# **Early insights**

- Total of 959 routine inspections since January (excluding e.g. Re-inspection, newly registered)
- Overall, 90% of pharmacies met all standards
- Pharmacies in higher risk bands failing more inspections.
- Correctly predicted 62%.
  - Only a small number were predicted to pass and actually failed - 1.6%
- Better data will help with more accurate profiling.



#### **Next steps**

- Trying to understand some of the factors better
- External data and review

#### Get in touch

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