



Grade Expectations:  
20 years of DR screening

45 seconds per year



# People

Alison Farrow

Roger Fletcher

Peter Fison

Steve Aldington

Helen Lipinski

# Six Degrees of Steven Aldington (Aldington Number)

1. Trained by or worked with Steve
2. Trained by or worked with someone who was trained by or worked with Steve
3. Trained by or worked with someone who was trained by or worked with someone who was trained by or worked with Steve
4. Trained by or .....

# Aldington or Bacon?



# Challenges



# Challenges

The switch to digital

# Challenges

The NSF

The switch to digital



# Challenges

The NSF

Training & Qualification

The switch to digital

# Challenges

Grading criteria

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Automation

The switch to digital

# Challenges

Grading criteria

Widefield imaging

The NSF

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Automation

The switch to digital

# Challenges

Grading criteria

Widefield imaging

The NSF

Training & Qualification

Automation

One-field versus two-field

The switch to digital

# Challenges

Grading criteria

Widefield imaging

The NSF

Training & Qualification

Automation

One-field versus two-field

The switch to digital

Non DR

# Challenges

Screening interval

Grading criteria

Widfield imaging

The NSF

Training & Qualification

Automation

One-field versus two-field

The switch to digital

Non DR

# Challenges

Screening interval

Grading criteria

Widfield imaging

The NSF

Training & Qualification

Automation

One-field versus two-field

The switch to digital

Non DR



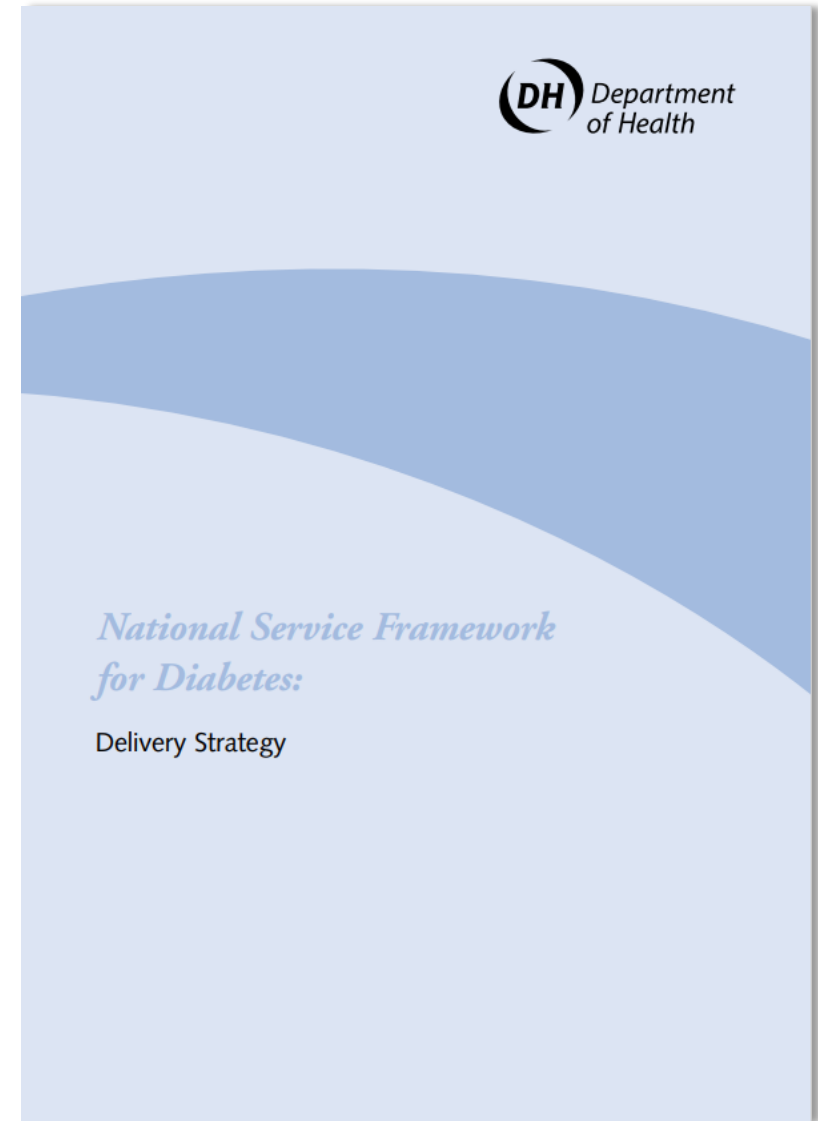
# The National Service Framework for Diabetes

- NSFs - long term strategies to improve specific areas of care
- Diabetes NSF Standards 2001

*“All young people and adults with diabetes will receive regular surveillance for the long-term complications of diabetes”*

- Delivery strategy 2003

*“A minimum of 80% of people with diabetes to be offered screening for the early detection and treatment of diabetic retinopathy by the end of 2006 to reach 100% by end of 2007”*



# NSF Pump priming capital

£26,000,000

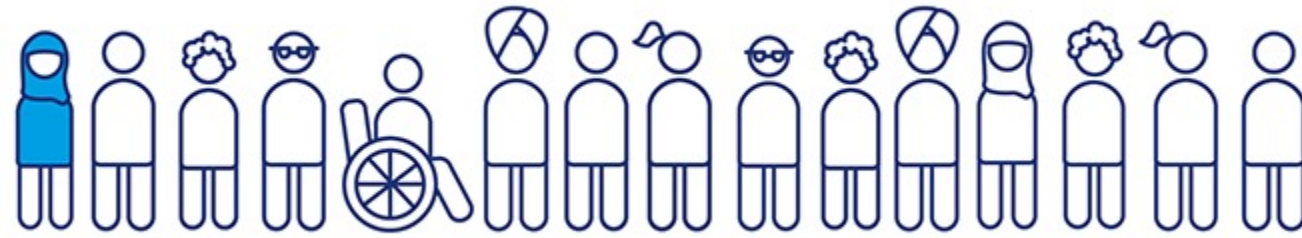
*£13 - £18*

*“A minimum of 80% of people with diabetes to be offered screening for the early detection and treatment of diabetic retinopathy by the end of 2006 to reach 100% by end of 2007”*

## *England 2021/22*

- *Acceptable*  $\geq 95\%$
- *Achievable*  $\geq 98\%$
- *Actual (all CCGs)* 92.7%

# People with diabetes



4.9 million

*357,700*

# Automation

- Joined Medalytix in 2008
- Aberdeen University Algorithm
  - Image Quality
  - ma & dot haem detection

*Fleming AD, Goatman KA, Philip S, Prescott GJ, Sharp PF, Olson JA. Automated grading for diabetic retinopathy: a large-scale audit using arbitration by clinical experts. Br J Ophthalmol. 2010;94:1606–10*

- Rolled out in Scotland by 2011



# Automation

12 years ago

*2021 NICE Report - AI technologies for detecting  
diabetic retinopathy*

EyeArt, RetinaLyze and Retmarker

# Potential usability issues

- The use of a different grading classification
- Appropriate integration of the AI system into existing systems
- Smooth data transfer
- Staff training and testing how the technologies perform when screening high volumes  
Of images, similar to what would be expected in routine practice
- Camera type and cost
- The number of images that need to be taken (and so time)
- The need for dilated pupils.

On a more positive note...

*“The leading cause of blindness in the UK’s  
working age population.”*

Not anymore!



Thank you!