

On-line EQA

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Topics for today

- Overview
- Visual acuity in the OL-EQA
- 2009-10 reports and main data results
- Interpretation and national standards
- Future developments



Overview

- EQA grading test set(s) were needed
- The Full Disease Grading test set was successfully piloted ending April 2009
- Nine programmes and 81 graders took part. Feedback led to improvements
- Phased roll-out to 92 English programmes between Aug-Dec '09: 1st year ending Dec '10
- Participation has been very good
- There have been some complaints



Visual acuity in the text



VA conversion chart

The image shows a screenshot of a web browser displaying a VA conversion chart and a test interface. The chart on the right side of the browser window is titled "Approximate equivalent visual acuity measurements (logMAR to f from Snellen (metre))". It shows a vertical scale with logMAR values on the left and Snellen (m) values on the right. A red arrow points to the 0.26 logMAR mark, which corresponds to the 612 Snellen (m) mark.

logMAR	Snellen (m)
1.0	600
0.9	630
0.8	675
0.7	720
0.6	750
0.5	900
0.4	1080
0.3	1260
0.26	612
0.2	630
0.1	675
0.0	900
-0.1	900
-0.2	675
-0.3	600

The test interface on the left shows a "Take Image Set" for "Fall (correct grade 2000-03)". It includes instructions and a grid of question buttons. Below the grid, "Question 3" is displayed, asking the user to identify the number of stars in two images. The "R Levels" section shows "VA: 0.26 (logMAR) (0.3)", and the "I Levels" section shows "VA: 0.26 (logMAR) (0.3)". A red circle highlights the "VA: 0.26 (logMAR) (0.3)" text in the I Levels section.

"VA = 0.26" (i.e. logMAR)



Question for the audience

- Is it appropriate to provide logMAR VA in the text and a Snellen conversion chart?
- Would Snellen VA be more appropriate?
- Should we give both in the text?
- How precisely should Snellen equivalent be given and is this valid?



Data and reporting of results: Main 2009-10 test set



Access to data and reports

- User can currently see only their block % agreement score against system answers and an Over/Under report
- PM/ACL can access (anonymised) comparison data reports for each grader/block/month
- ? Most useful reports for PM and ACL – Over/Under (Stats) and Table of Responses

Review of images is not possible by anyone



Individual grader result

The screenshot displays the 'Line EQA System' interface, which is used for monitoring and reporting on examination results. It is divided into several sections:

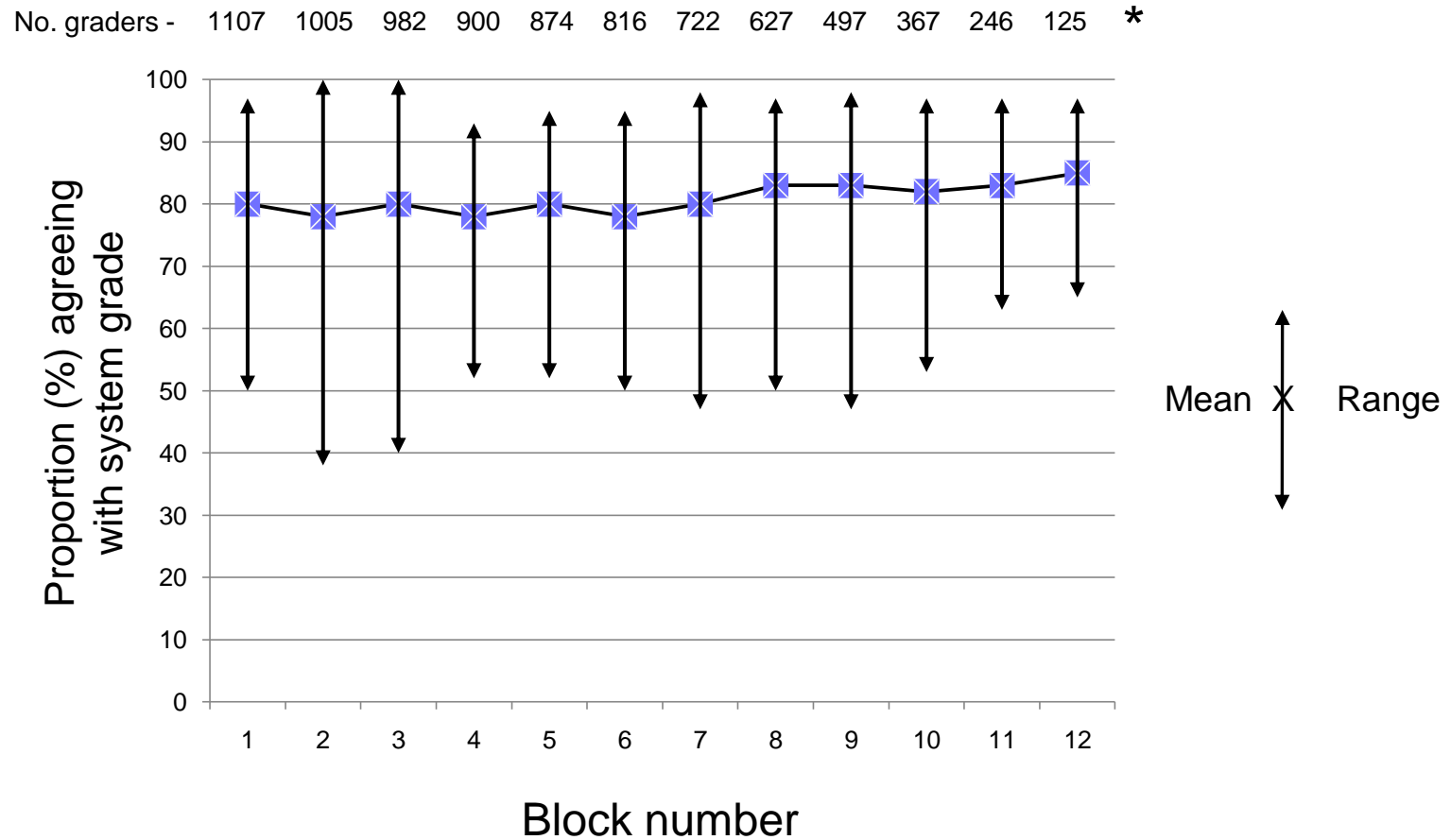
- Left Panel:** Contains instructions for the grader, such as 'Please answer all the following questions - there is no time limit' and 'Click on any of the images to open them full speed in a new window'. It also includes a 'Take Image Set' button and a 'Conversion Chart'.
- Center Panel (Time Full Attempt Details):** Shows a list of 10 screens (24th to 33rd) with their respective scores and percentages. A summary table at the bottom indicates a total possible score of 10, a total score achieved of 37, and a percentage success of 37%.
- Right Panel (Overall Programme Report):** Provides an overview of the programme, including the 'Central EQA Office', the year '2009/2010', and a list of '14 periods' from August 2009 to October 2010. It also includes a table of 'Screens with program recorded'.

Screen	Possible score 1	Possible score 2	Total score 1	Total score 2	Total score 3	Total percentage success for screen	Total score for screen
24th screen	1	1	0	0	0	0%	0
25th screen	1	1	0	0	0	0%	0
26th screen	1	1	0	0	0	0%	0
27th screen	1	1	0	0	0	0%	0
28th screen	1	1	1	1	1	100%	1
29th screen	1	1	0	0	0	0%	0
30th screen	1	1	1	1	1	100%	1
31st screen	1	1	0	0	0	0%	0
32nd screen	1	1	0	0	0	0%	0
33rd screen	1	1	0	0	0	0%	0
Total possible for Image Set	10						
Total score achieved			37				
Percentage success						37%	

Screen	Score	Period
11	10 (100%)	September 2009
1	1 (100%)	October 2009
20	22 (100%)	November 2009
3	8 (100%)	December 2009
1	8 (100%)	January 2010



Proportional agreement score by block (all programmes, all graders at 12/09/10)



* = total of 8268 blocks of 30 = almost 250,000 eyes!



Statistics (under/over) and Level of Agreement reports



Statistics chart – grader 1 (7 blocks)

 Print Report »

This report contains only records where the image set **HAS** been completed This report does **NOT** include answers recorded by trainees

Statistics Chart

Level	No. times Presented as correct	No. times answered correctly	% times answered correctly	No. times Overgraded	% of times Overgraded	No. of times Undergraded	% of times Undergraded
R	210	144	69 %	47	22 %	19	9 %
R0	23	16	70 %	7	30 %	0	0
R1	100	65	65 %	35	35 %	0	0 %
R2	37	23	62 %	5	14 %	9	24 %
R3	50	40	80 %	0	0	10	20 %
M	210	177	84 %	32	15 %	1	0 %
M0	139	107	77 %	32	23 %	0	0
M1	71	70	99 %	0	0	1	1 %

 Export to Excel »



Statistics chart – grader 2 (10 blocks)

 Print Report »

This report contains only records where the image set **HAS** been completed This report does **NOT** include answers recorded by trainees


Statistics Chart

Level	No. times Presented as correct	No. times answered correctly	% times answered correctly	No. times Overgraded	% of times Overgraded	No. of times Undergraded	% of times Undergraded
R	300	253	84 %	16	5 %	31	10 %
R0	47	41	87 %	6	R1 - 6 R2 - 0 R3 - 0	0	0
R1	138	129	93 %	6	R2 - 4 R3 - 2	3	R0 - 3
R2	58	39	67 %	4	R3 - 4	15	R0 - 0 R1 - 15
R3	57	44	77 %	0		13	R0 - 0 R1 - 2 R2 - 11
M	300	276	92 %	14	5 %	10	3 %
M0	207	193	93 %	14	M1 - 14	0	0
M1	93	83	89 %	0		10	M0 - 10

 Export to Excel »



Level of Agreement – grader 1 (7 blocks)

Level of Agreement  Export to Excel »

Block 0


		R0	R1M0	R1M1	R2M0	R2M1	R3M0	R3M1
EQA Grade	R0	16	3	2	1	0	1	0
	R1M0	0	35	9	9	10	6	1
	R1M1	0	1	20	0	8	0	1
	R2M0	0	7	1	13	3	2	0
	R2M1	0	0	1	0	7	0	3
	R3M0	0	0	0	4	1	10	5
	R3M1	0	0	0	0	5	0	25

Not referred:
8/117 (6.9%)

Exact:
126/210 (60%)



Level of Agreement – grader 2 (10 blocks)

Level of Agreement  Export to Excel »

Block 0

	R0	R1M0	R1M1	R2M0	R2M1	R3M0	R3M1
R0	41	5	1	0	0	0	0
R1M0	3	78	11	2	0	1	1
R1M1	0	2	38	0	2	0	0
R2M0	0	5	0	31	0	4	0
R2M1	0	2	8	0	8	0	0
R3M0	0	2	0	4	0	17	1
R3M1	0	0	0	4	3	2	24

Not referred:
11/157 (7.0%)

Exact:
235/300 (79%)



Which metric to use?

- Total of R + M Agreement versus system
- Agreement of R or M versus system
- Referred versus not referred vs system
- Missed R3 cases (number or proportion)
- The severity of missed cases
- Over-grading as well as under-grading
- Cost to the NHS / cost to the patient
- How important is the error...



Where in the grading pathway?

- Should best graders be Primary graders
- Or Second level graders
- Or Arbitration level graders
- Where should Trainees be placed
- Implications of grader errors



Table of Responses reports



Table of Responses (PM / ACL)

Export to Excel >

File: Correct Misgraded Over-graded

Table of responses

The following table lists each screen/grade for each test, with the EGA answer displayed. Each grade's response is shown in a color box.

Supervisor Note: City IDs are used to locate the name of the grade, and the ID of the screen viewed.

Block ID	A Id: 1709 > Title: Screen 80	B Id: 1740 > Title: Screen 76	C Id: 1800 > Title: Screen 82	D Id: 1769 > Title: Screen 77	E Id: 1788 > Title: Screen 78	F Id: 1772 > Title: Screen 83	G Id: 1709 > Title: Screen 88	H Id: 1802 > Title: Screen 81	I Id: 1818 > Title: Screen 87	J Id: 1722 > Title: Screen 86	K Id: 1752 > Title: Screen 89	L Id: 1805 > Title: Screen 84	M Id: 1787 > Title: Screen 85	N Id: 1741 > Title: Screen 84	O Id: 1823 > Title: Screen 79	P Id: 1808 > Title: Screen 12
EGA 0 >	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0
	R1M0	R1M0	R0M0	R0M0	R0M0	R1M0	R1M0	R1M1	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R2M0
	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R0M0
	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R0M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R0M0
	R0M0	R1M0	R1M0	R1M0	R0M0	R1M0	R1M0	R1M0	R0M0	R1M0	R1M0	R1M0	R1M1	R1M0	R1M1	R0M0
	R0M0	R1M0	R1M0	R1M0	R1M0	R1M0	R1M0	R2M1	R1M0	R2M0	R1M0	R1M0	R2M0	R1M0	R2M0	R0M0

Block ID	P Id: 1806 > Title: Screen 12	Q Id: 1725 > Title: Screen 71	R Id: 1739 > Title: Screen 74	S Id: 1822 > Title: Screen 72	T Id: 1769 > Title: Screen 82	U Id: 1770 > Title: Screen 79	V Id: 1771 > Title: Screen 79	W Id: 1754 > Title: Screen 87	X Id: 1749 > Title: Screen 14	Y Id: 1764 > Title: Screen 15	Z Id: 1738 > Title: Screen 13	AB Id: 1766 > Title: Screen 84	AC Id: 1824 > Title: Screen 80	AD Id: 1787 > Title: Screen 85	AE Id: 1756 > Title: Screen 11
R1M0	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1	R2M1
R2M0	R1M1	R1M1	R2M0	R1M0	R1M0	R1M0	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1	R2M1
R0M0	R1M1	R2M0	R2M0	R2M0	R1M0	R2M0	R1M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1
R2M0	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1	R2M1
R2M0	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1	R2M1
R2M0	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1	R2M1



Table of Responses (Steve A)

Program A - Block 10

	O Id: 1744 > Title: Screen 51	P Id: 1806 > Title: Screen 52	Q Id: 1814 > Title: Screen 53	R Id: 1721 > Title: Screen 40	S Id: 1742 > Title: Screen 40	T Id: 1738 > Title: Screen 54	U Id: 1743 > Title: Screen 50	V Id: 1793 > Title: Screen 58	W Id: 1815 > Title: Screen 51	X Id: 1795 > Title: Screen 50	Y Id: 1817 > Title: Screen 55	Z Id: 1794 > Title: Screen 59	AB Id: 1807 > Title: Screen 53	AC Id: 1818 > Title: Screen 54	AD Id: 1730 > Title: Screen 53
R1M0	R1M0	R1M0	R1M1	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1
R1M0	R1M1	R1M0	R1M1	R1M1	R1M1	R2M0	R2M0	R1M0	R2M0	R2M0	R2M1	R1M0	R2M0	R1M1	R1M1
R1M0	R1M1	R1M0	R1M1	R1M0	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R1M0	R2M1	R2M1
R1M0	R2M0	R1M1	R0M1	R1M1	R1M0	R2M0	R2M0	R1M0	R2M0	R2M0	R2M0	R2M0	R1M0	R2M1	R2M1
R1M1	R1M1	R1M0	R1M1	R1M1	R1M1	R2M0	R2M0	R1M0	R2M0	R2M1	R3M1	R2M0	R2M1	R2M1	R2M1
R1M0	R1M1	R1M0	R1M1	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M0	R2M1	R2M1
R1M0	R1M1	R1M0	R1M1	R1M1	R1M1	R0M0	R2M0	R1M0	R2M0	R2M0	R2M0	R1M0	R2M1	R2M1	R2M1

Program B - Block 10

	O Id: 1744 > Title: Screen 51	P Id: 1809 > Title: Screen 52	Q Id: 1814 > Title: Screen 53	R Id: 1721 > Title: Screen 40	S Id: 1742 > Title: Screen 40	T Id: 1738 > Title: Screen 54	U Id: 1743 > Title: Screen 50	V Id: 1793 > Title: Screen 58	W Id: 1815 > Title: Screen 51	X Id: 1795 > Title: Screen 50	Y Id: 1817 > Title: Screen 55	Z Id: 1794 > Title: Screen 59	AB Id: 1807 > Title: Screen 53	AC Id: 1818 > Title: Screen 54	AD Id: 1730 > Title: Screen 53
R1M0	R1M0	R1M0	R1M1	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M0	R2M1	R2M1
R2M1	R1M0	R1M1	R1M1	R0M0	R1M1	R2M0	R3M0	R2M0	R3M0	R2M0	R3M0	R3M0	R1M0	R1M0	R2M1
R1M1	R1M1	R1M1	R1M1	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R3M0	R2M1	R2M1	R1M0	R2M1	R2M1
R1M1	R1M1	R1M1	R1M1	R1M1	R1M1	R2M0	R2M0	R2M0	R2M0	R2M0	R3M1	R2M0	R1M0	R1M1	R2M1
R1M0	R1M1	R1M1	R1M1	R1M1	R1M1	R2M0	R2M0	R1M0	R2M0	R2M1	R2M1	R3M0	R1M0	R2M1	R1M1
R2M0	R1M1	R1M1	R0M0	R1M1	R1M0	R2M0	R2M0	R1M0	R2M0	R2M0	R2M0	R2M0	R2M0	R1M1	R1M1
R2M1	R1M1	R2M0	R1M1	R1M1	R1M1	R2M0	R2M0	R2M0	R1M0	R2M0	R2M0	R2M0	R2M0	R1M1	R2M1



Challenges

- Reluctance / refusal to participate:
 - As individuals
 - As Programmes
 - As 'a group'
- Cost implications (60-90 mins per test/month)
- No 'pass mark' or case feedback/image review
- Poor local network connection speeds
- Some definitions in R2 and M1
- Testing frequency
- Implications of poor performance



Interpretation and significance of On-line EQA test results



- Remember: a disease- and referral-positive weighted sample is being tested
- Overall agreement runs about 78-83%
- There are some cases where few people agree with the 'system' grade
- There are some cases where few people agree with each other

Is proportional agreement appropriate?

What is an appropriate 'pass mark'?



National agreement data

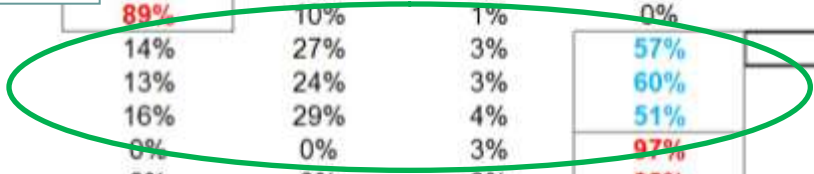
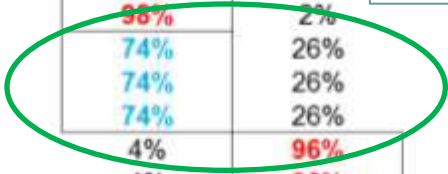
On-line EQA data 2009-10							Maculopathy		Retinopathy			
Screen Report - 12/09/2010	No. graders / presentation			Actual M Grade	Actual R Grade	0	1	0	1	2	3	
Screen title	1	2	3									
64		961		1	1	1%	99%	0%	90%	9%	1%	
65			141	1	1	0%	100%	0%	96%	4%	0%	
66	Screen 71	1014		1	1	5%	95%	0%	97%	2%	0%	
67		861		1	1	4%	96%	0%	97%	2%	0%	
68			160	1	1	3%	98%	0%	99%	1%	0%	
69	Screen 8	1390		0	1	83%	17%	1%	96%	3%	0%	
70			1234	0	1	88%	12%	0%	95%	4%	1%	
71			841	0	1	90%	10%	0%	95%	3%	1%	
72	Screen 9	1390		0	2	95%	5%	0%	37%	38%	5%	
73			1238	0	2	94%	6%	0%	29%	63%	8%	
74			838	0	2	95%	5%	0%	20%	70%	10%	
75	Screen 30	1362		1	1	14%	86%	0%	96%	3%	1%	
76			974	1	1	8%	92%	0%	95%	4%	1%	
77			694	1	1	4%	96%	0%	96%	3%	1%	
78	Screen 52	1209		0	0	95%	1%	84%	13%	2%	0%	
79		1024		0	0	99%	1%	90%	9%	2%	0%	
80			260	0	0	100%	0%	90%	8%	3%	0%	
81	Screen 53	1209		1	2	2%	98%	0%	34%	51%	16%	
82			1012	1	2	1%	99%	0%	27%	56%	16%	
83			260	1	2	1%	99%	0%	22%	60%	19%	
84	Screen 31	1300		0	1	73%	28%	17%	43%	7%	33%	
85			1120	0	1	71%	29%	16%	41%	7%	37%	
86			519	0	1	72%	28%	17%	37%	6%	40%	
87	Screen 32	1296		0	2	78%	22%	0%	49%	39%	11%	
88			1133	0	2	82%	18%	1%	44%	41%	14%	
89			625	0	2	91%	9%	0%	37%	49%	14%	
90	Screen 33	1299		1	2	8%	92%	0%	32%	30%	10%	
91			1132	1	2	6%	94%	0%	24%	64%	12%	
92			524	1	2	4%	96%	0%	18%	68%	14%	
93	Screen 34	1297		1	1	17%	83%	0%	80%	14%	6%	
94			1127	1	1	14%	86%	0%	73%	20%	6%	
95			524	1	1	13%	87%	0%	78%	16%	6%	
96	Screen 35	1298		1	1	10%	90%	0%	95%	4%	1%	
97			1136	1	1	7%	93%	0%	93%	5%	1%	
98			524	1	1	5%	95%	0%	93%	7%	0%	
99	Screen 54	1211		1	1	22%	78%	1%	96%	1%	2%	
100			1028	1	1	20%	80%	1%	95%	2%	2%	
101			269	1	1	18%	82%	0%	97%	1%	2%	
102	Screen 27	1360		1	3	1%	99%	0%	16%	28%	56%	
103			860	1	3	0%	100%	0%	3%	21%	75%	
104			593	1	3	0%	100%	0%	3%	17%	81%	



Non-uniformity of some results

	R	S	T	U	AD	AE	AF	AG	AH	A
1										
2										
3		Maculopathy				Retinopathy				
4		0	1			0	1	2	3	
255		98%	2%			82%	15%	1%	1%	
256		99%	1%			87%	10%	2%	1%	
257		98%	2%			89%	10%	1%	0%	
258		74%	26%			14%	27%	3%	57%	
259		74%	26%			13%	24%	3%	60%	
260		74%	26%			16%	29%	4%	51%	
261		4%	96%			0%	0%	3%	97%	
262		4%	96%			0%	0%	2%	98%	
263		3%	97%			0%	2%	4%	93%	
264		4%	96%			0%	2%	55%	44%	
265		3%	97%			0%	0%	54%	46%	
266		1%	99%			0%	3%	49%	47%	
267		98%	2%			5%	86%	6%	3%	
268		98%	2%			5%	90%	4%	1%	
269		100%	0%			5%	88%	5%	3%	
270		82%	18%			0%	11%	81%	9%	
271		83%	17%			0%	5%	87%	7%	

Which is the correct grade?



National proportional distribution

Of the 120 screens, each now viewed 3x:

- R level 'agreement' by >50% graders:
 - 1st presentation: 109 / 120 (91%)
 - 2nd presentation: 114 / 120 (95%)
 - 3rd presentation: 109 / 120 (91%)
- R level 'agreement' by >75% graders:
 - 1st presentation: 67 / 120 (56%)
 - 2nd presentation: 67 / 120 (56%)
 - 3rd presentation: 69 / 120 (58%)



National proportional distribution

Of the 120 screens, each now viewed 3x:

- M level 'agreement' by >50% graders:
 - 1st presentation: 120 / 120 (100%)
 - 2nd presentation: 120 / 120 (100%)
 - 3rd presentation: 120 / 120 (100%)
- M level 'agreement' by >75% graders:
 - 1st presentation: 100 / 120 (83%)
 - 2nd presentation: 102 / 120 (85%)
 - 3rd presentation: 105 / 120 (85%)



Variable agreement with 'system'

	R	S	T	U	AD	AE	AF	AG	AH
1									
2									
3		Maculopathy				Retinopathy			
4		0	1		0	1	2	3	
204		96%	4%		0%	48%	49%	4%	
205		94%	6%		0%	42%	55%	3%	
206		96%	4%		1%	30%	63%	6%	
207		95%	5%		56%	43%	1%	0%	
208		98%	2%		61%	38%	1%	0%	
209		97%	3%		63%	36%	1%	0%	
210		40%	60%		0%	66%	32%	2%	
211		41%	59%		0%	60%	36%	4%	
212		38%	62%		0%	54%	40%	5%	
213		97%	3%		24%	75%	1%	0%	
214		96%	4%		18%	81%	1%	0%	
215		97%	3%		12%	88%	0%	0%	
216		89%	11%		8%	90%	1%	0%	
217		87%	13%		4%	94%	2%	0%	
218		92%	8%		3%	95%	2%	0%	
219		5%	95%		0%	10%	36%	54%	
220		1%	96%		0%	2%	21%	73%	



Is proportional agreement with 'system' grade (ever) the best measure?

Is there a better metric for measuring and reporting 'performance'?



Future Direction of the On-line EQA tests



Key factors for 2011 and beyond

- Screeners and graders want to get it right
- No access to images is a major constraint
- Simple score for agreement against system grade may be problematic
- Difficult for ophthalmology / HES to help provide remedial staff training
- How do we do more to support training?



The future for OL-EQA

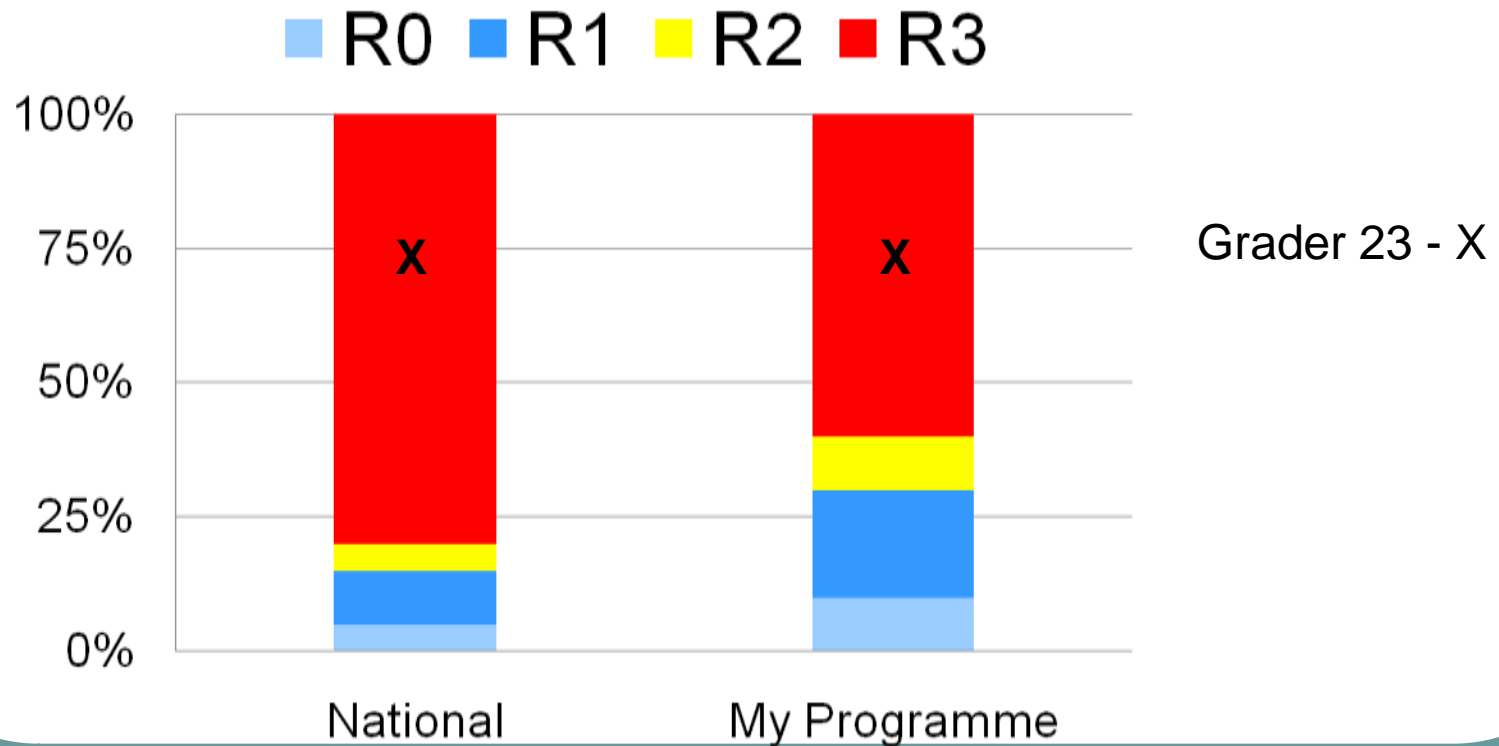
Enhancing the usefulness of OL-EQA:

- Concept shift from EQA to 'Test and Training'
- Fixed monthly sets April '11- March '12 for all
- Fewer cases / month (20 in each)
- Results against PEER opinion and 'system'
- Results and (most) images will be given immediately following month end
- Launch date for this: 1st April 2011



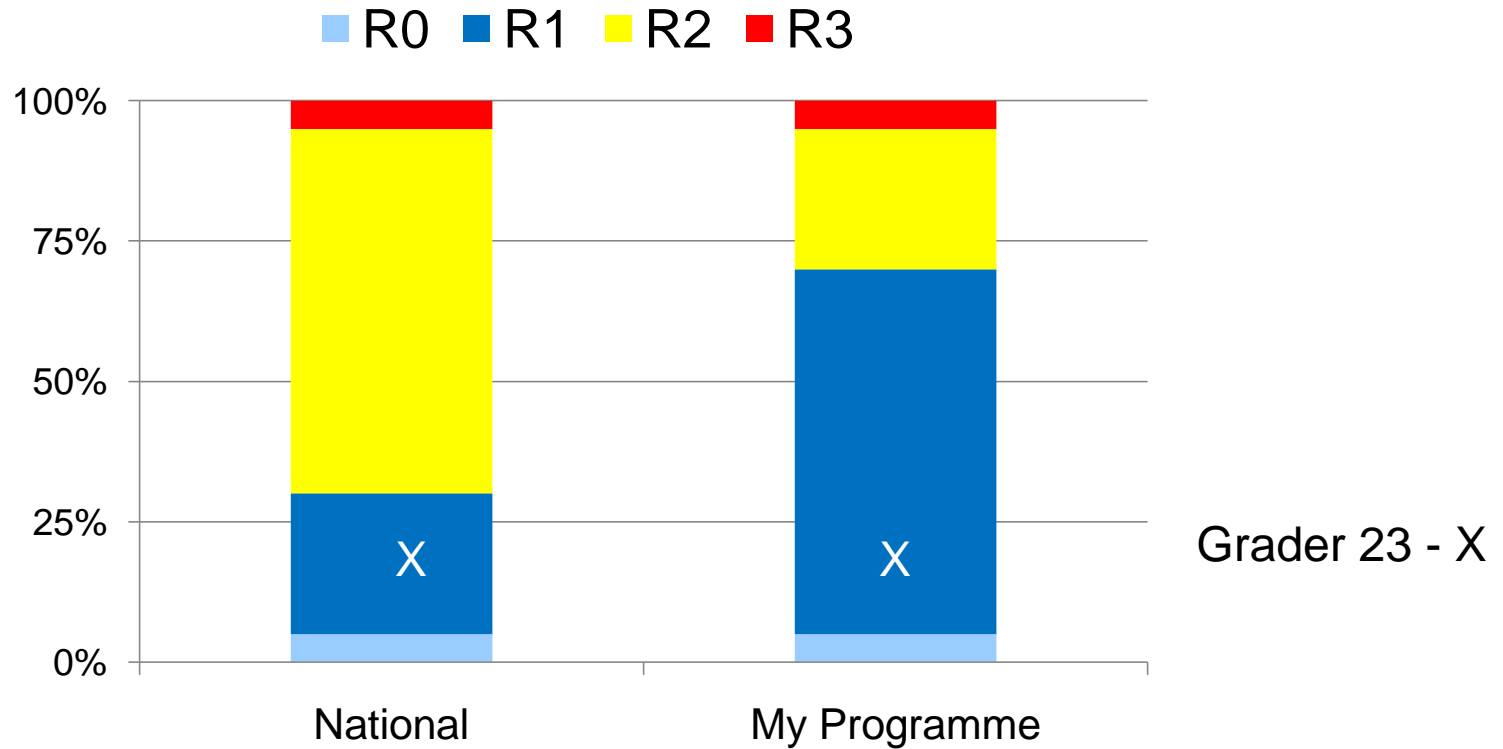
Agreement against peers

August Screen 7

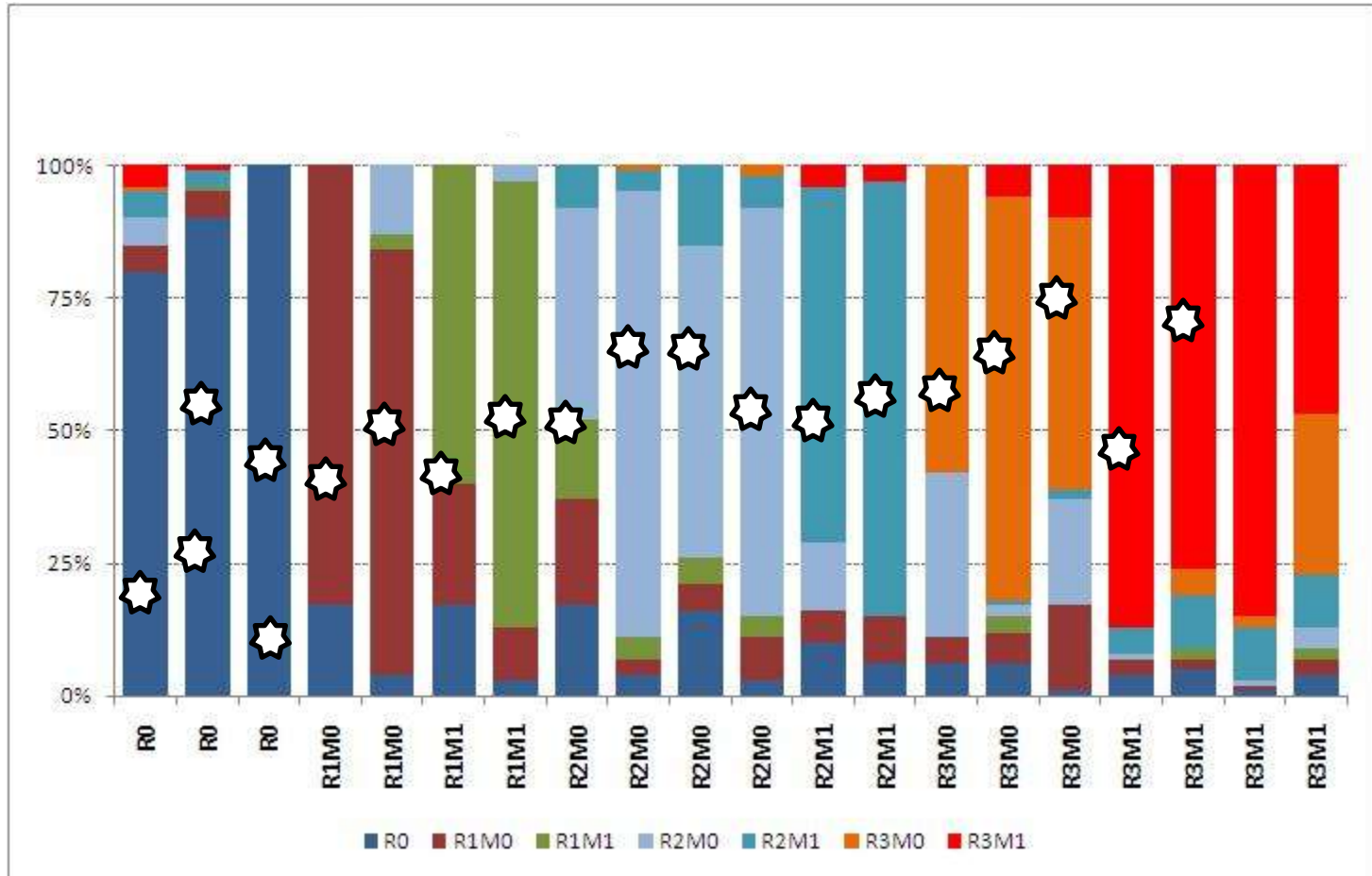


Agreement against peers

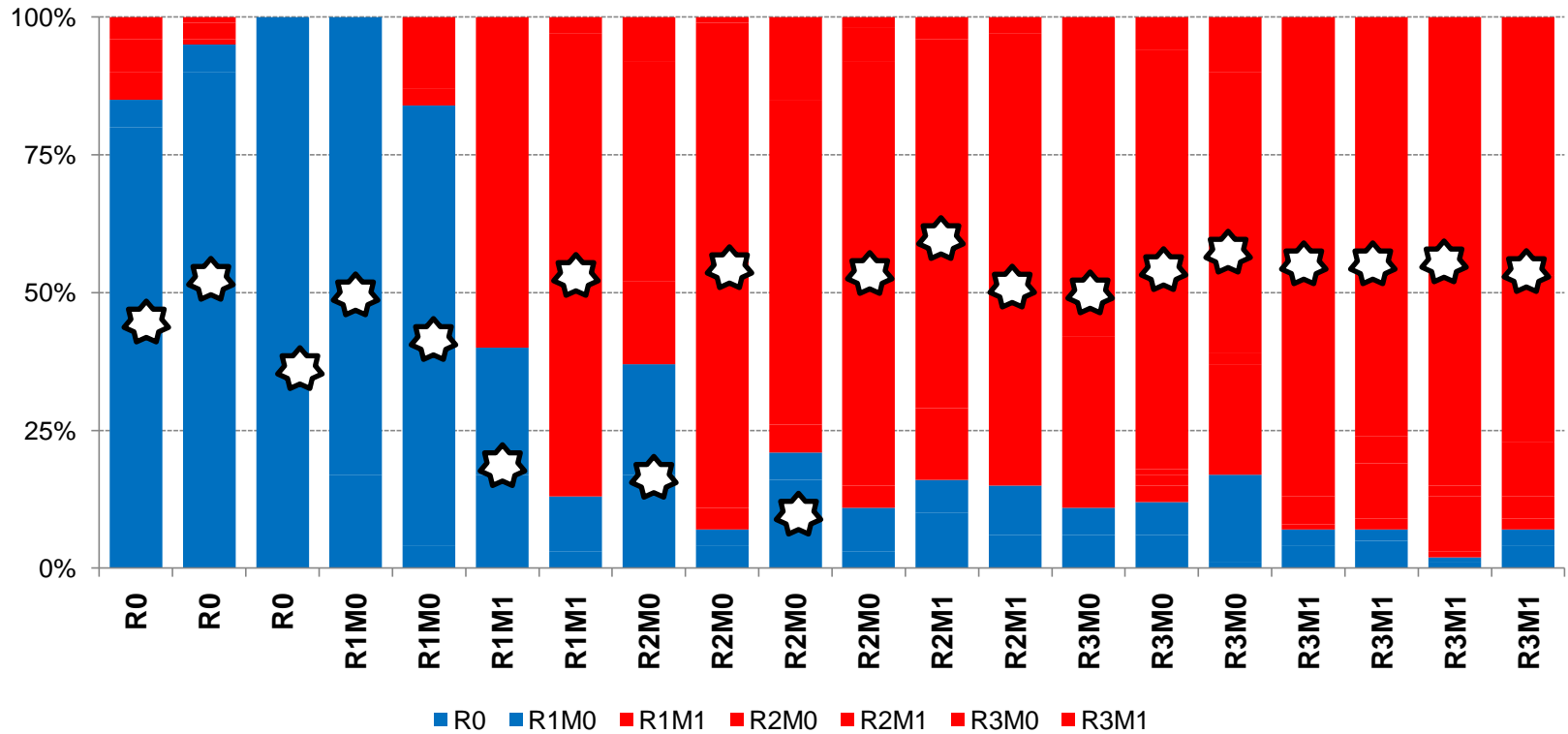
August Screen 8



Agreement against peers- April 2011



Agreement against peers- April 2011



Question for the audience

- Would you still want to know what was the identified 'system' grade for each case?
- How do we combine grades from 20 cases into a single score, if not using agreement against system grade?



Performance of graders 23 and 24

	R	S	T	U	AD	AE	AF	AG	AH	A
1										
2										
3		Maculopathy				Retinopathy				
4		0	1			0	1	2	3	
255		98%	2%			82%	15%	1%	1%	
256		99%	1%			87%	10%	2%	1%	
257		98%	2%			89%	10%	1%	0%	
258		74%	26%			14%	27%	3%	57%	
259		74%	26%			13%	24%	3%	60%	
260		74%	26%			16%	29%	4%	51%	
261		4%	96%			0%	0%	3%	97%	
262		4%	96%			0%	0%	2%	98%	
263		3%	97%			0%	2%	4%	93%	
264		4%	96%			0%	2%	55%	44%	
265		3%	97%			0%	0%	54%	46%	
266		1%	99%			0%	3%	49%	47%	
267		98%	2%			5%	86%	6%	3%	
268		98%	2%			5%	90%	4%	1%	
269		100%	0%			5%	88%	5%	3%	
270		82%	18%			0%	11%	81%	9%	
271		83%	17%			0%	5%	87%	7%	



$$0.82 + 0.57 + 0.97 + 0.55 = 2.91$$

$$0.82 + 0.14 + 0.97 + 0.44 = 2.37$$

Results against peers

Data against peer opinion will be shown and reported

A monthly combined performance figure will be calculated and reported

This accounts for agreement cases and difference from majority agreement cases



Results against system

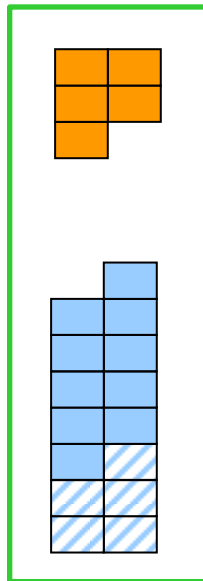
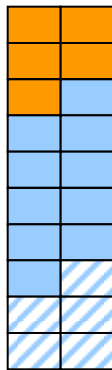
Data against 'system' grade will also still be reported. But why?

Because it is of course possible that the 'majority' get it wrong!



Monthly block composition

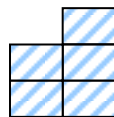
20 cases per
monthly block



5 cases without image release
(for CUSUM comparison)

15 cases with full data and image
release (training set)

Data against peers from all 20 cases



5 cases with annotated data
(enhanced training set)

(at end of each month)

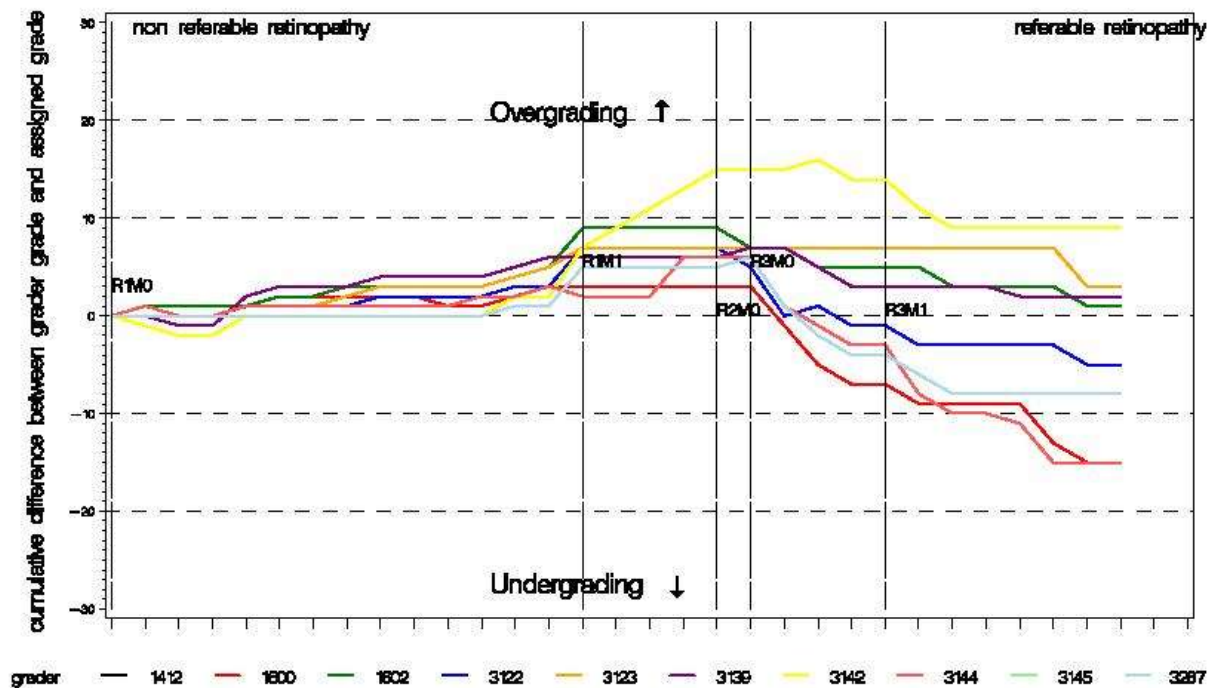


Cusum – block 1

EQA cusum

Programme=

group= 1 block= 1

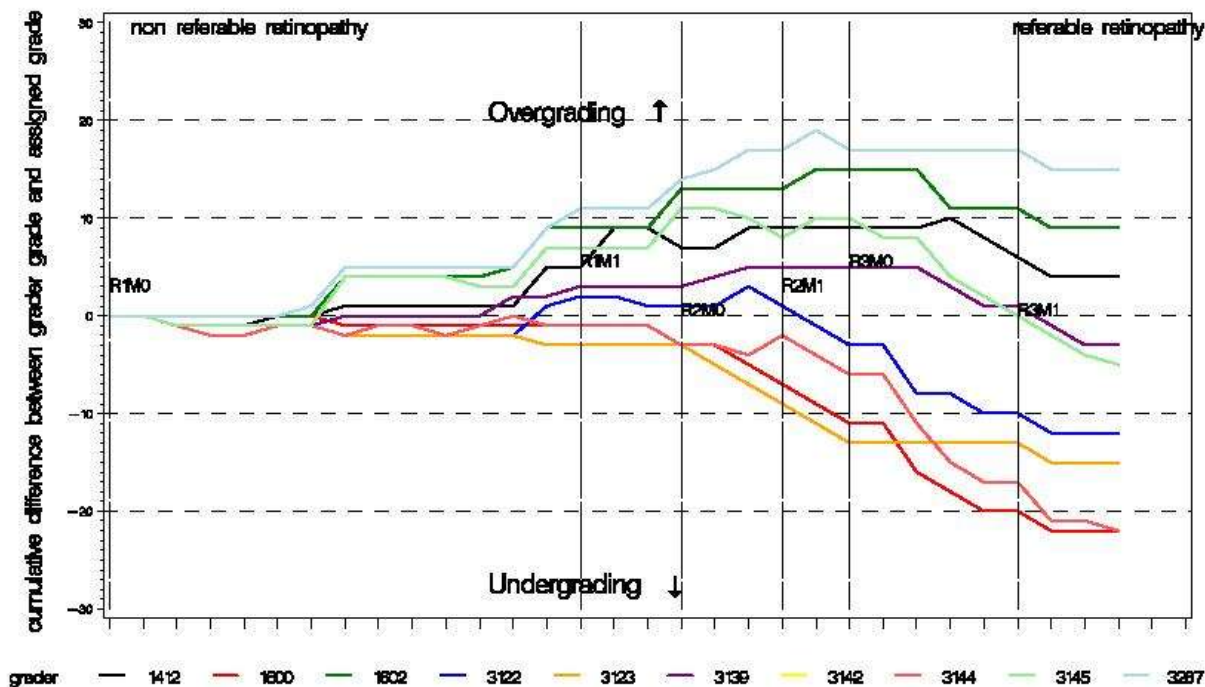


Cusum – block 2

EQA cusum

Programme=

group= 1 block= 2



Further development - annotation



New - Lesion Annotation Tool



Lesion Annotation Tool

- Provided to support additional T.A.T.
- Is not mandated in any way
- Helps identify exactly what graders see
- Produces permanent DICOM images and auto-comparable ASCII text data
- Grader annotations can be compared against marked-up images from the system, local peers, HES, ?nationally



The future for OL-EQA

- Concept shift from EQA to 'Test and Training'
- Fewer cases / block (20 in each)
- Fixed monthly blocks April-March for all
- Primary results against PEERS not system
- Images and results will be (mostly) visible – and at each month-end
- Lesion Annotation Tool available
- More improvements to reports incl. ANOVA
- Launch date 1st April 2011
- Pilot sites needed for Jan – March 2011!!



Thanks for your time.
Any comments or questions?

