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EXTERNAL QUALITY ASSESSMENT

INTERNAL QUALITY CONTROL

REFERENCE MEASUREMENT SERVICES

EDUCATION & TRAINING

Weqas | GLOBAL PROVIDER OF QUALITY IN DIAGNOSTIC MEDICINE

POCT CRP Performance on Weqas EQA Programme

Gareth Davies

Suspected acute respiratory infection in over 16s: assessment at first presentation and initial management (NG237)

Weqas

1.3.4 If, after clinical assessment, it is unclear if antibiotics are needed for someone with a lower respiratory tract infection, consider a point-of-care C-reactive protein (CRP) test to support clinical decision making and:

- offer immediate antibiotics if the CRP level is more than 100 mg/litre
- consider a back-up antibiotic prescription if the CRP level is between 20 mg/litre and 100 mg/litre
- do not routinely offer antibiotics if the CRP level is less than 20 mg/litre.

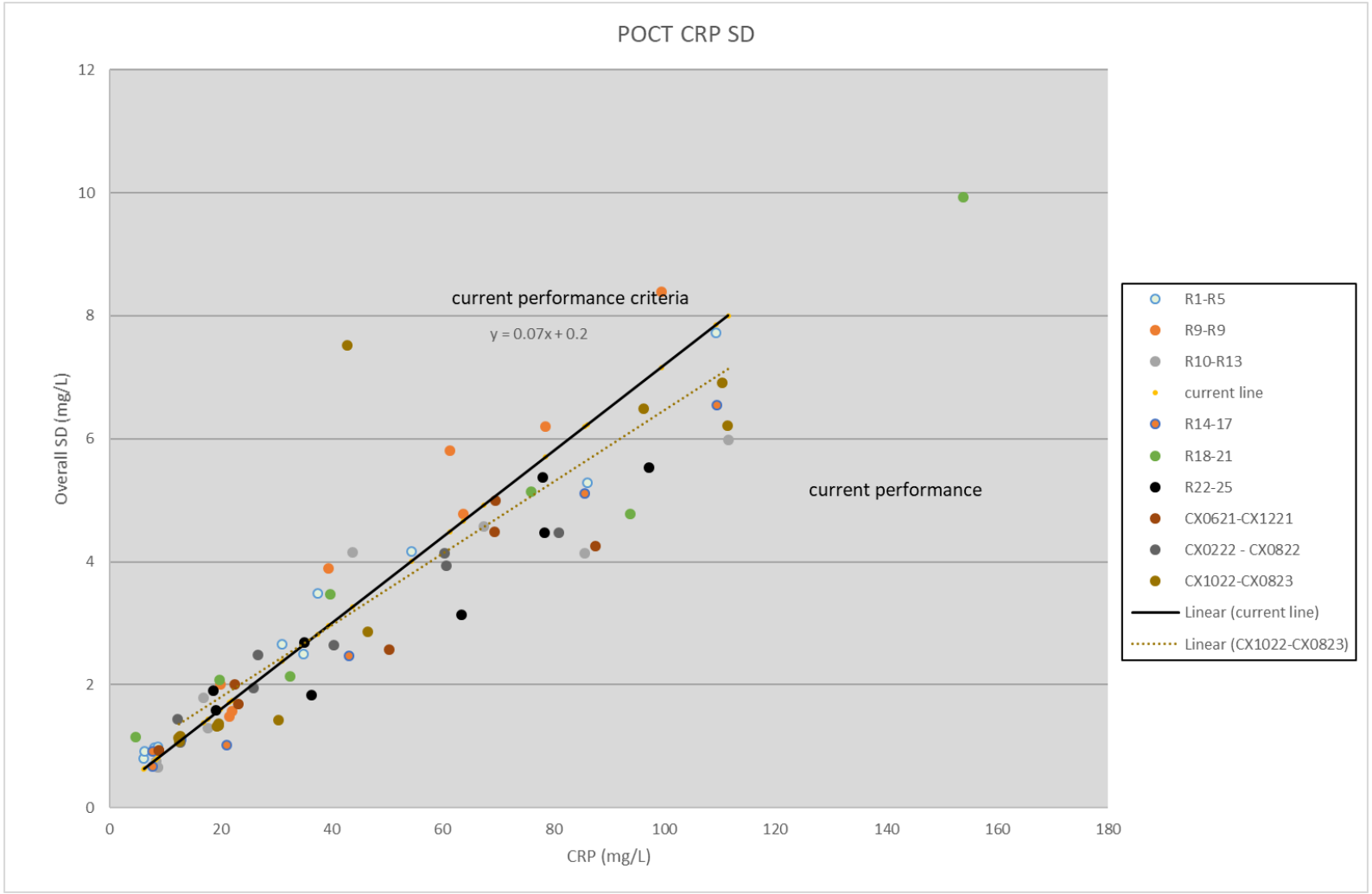
1.3.5 Follow seasonal advice from the UK Health Security Agency (UKHSA) on managing influenza-like illness.

The All Wales Primary Care Management of Acute COPD Exacerbation Guideline

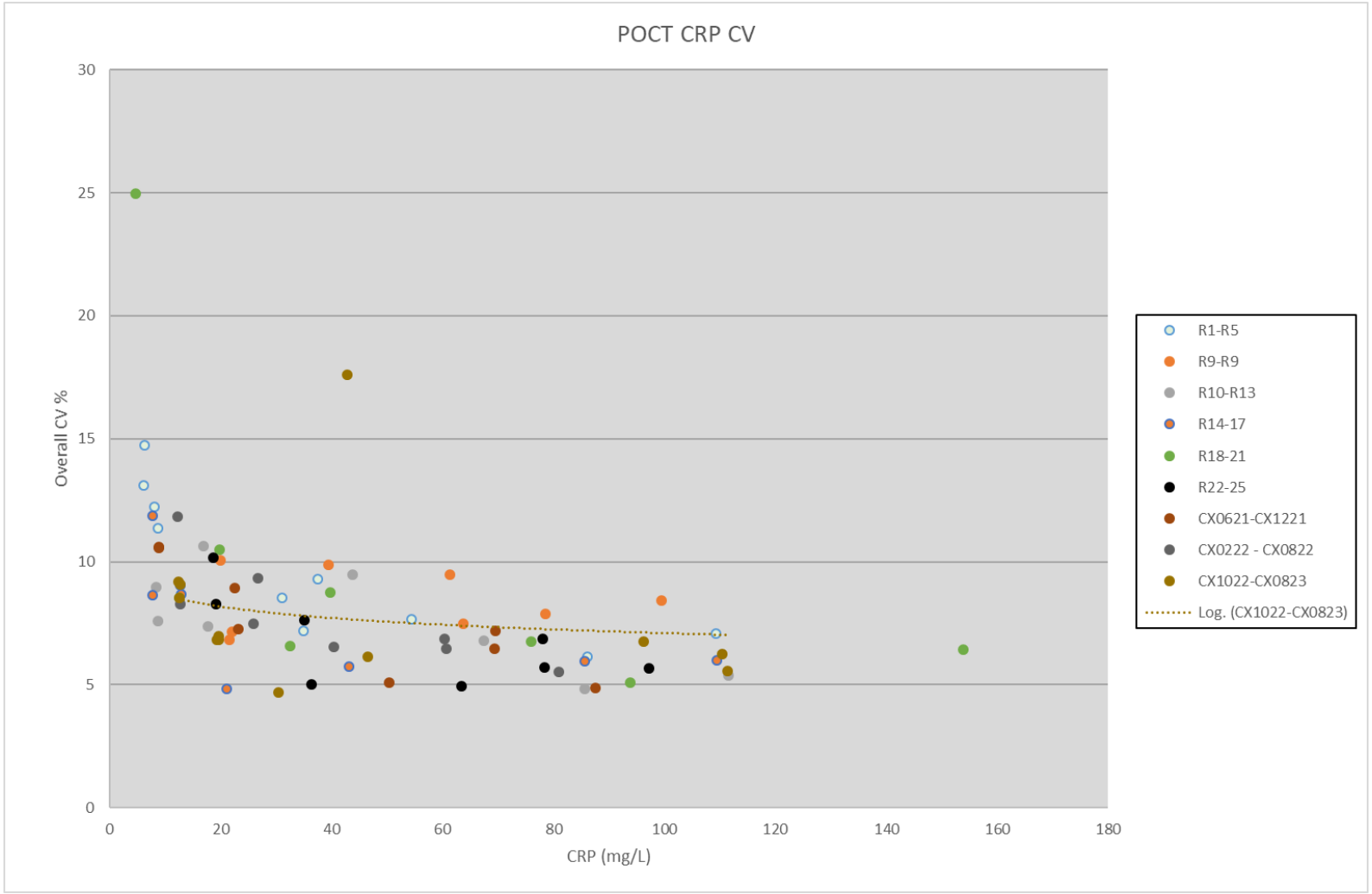
Weqas POCT CRP Programme

Frequency: Bimonthly
Samples: 2 (0.5 mL)
Return Window: 2 weeks The same samples are distributed on the POCT CRP programme and the Lab CRP programme to allow for comparison between lab and POCT.
Material: Off the clot human serum, mix of endogenous and spiked samples.
Range: Samples targeted at appropriate concentrations for antibiotic stewardship, covering a concentration range of 10 – 150 mg/L.
Weqas Connect Reports – standard reports, simplified reports, POCT Co-ordinators reports available.

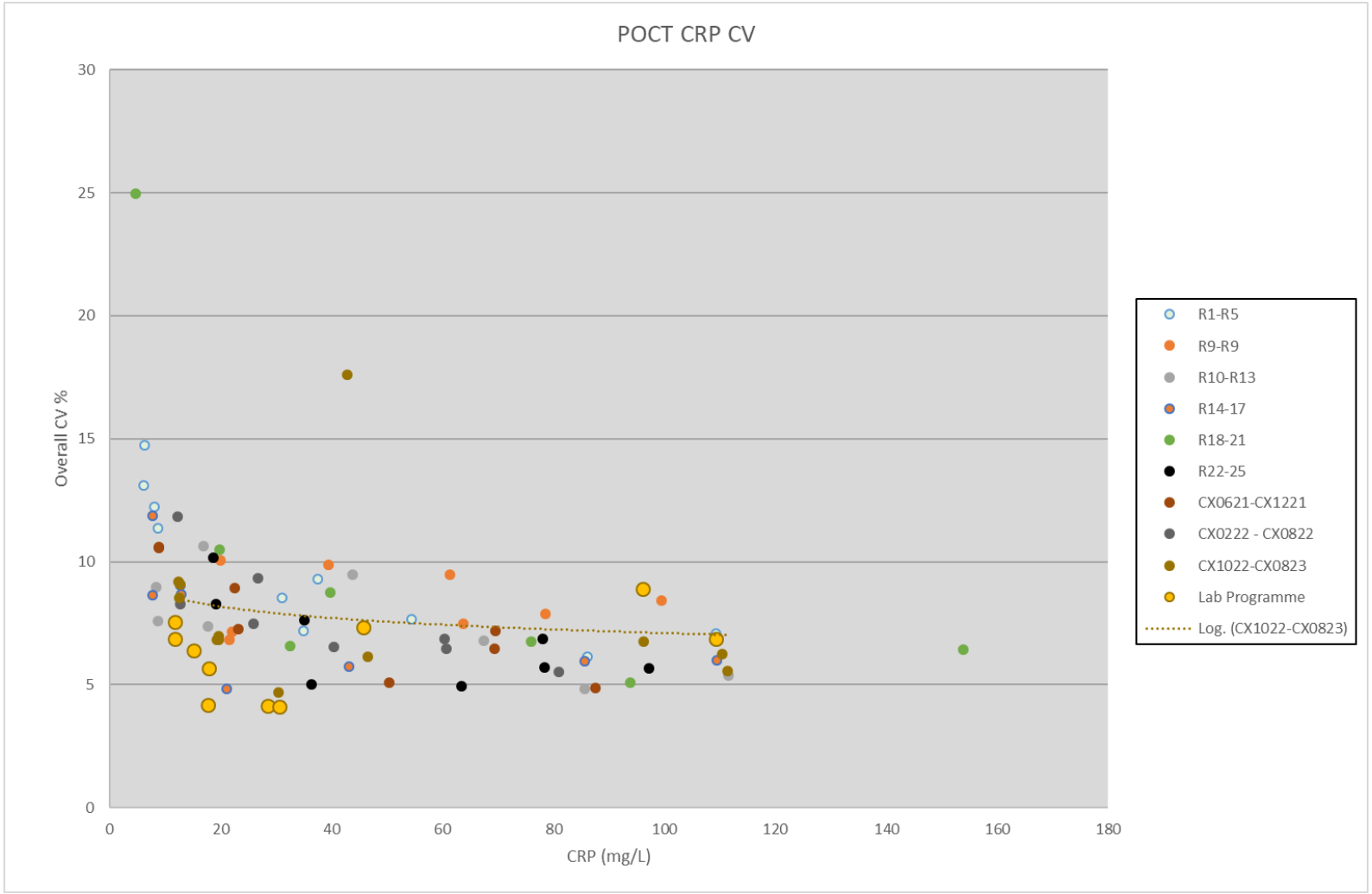
POCT CRP Precision Profile - SD



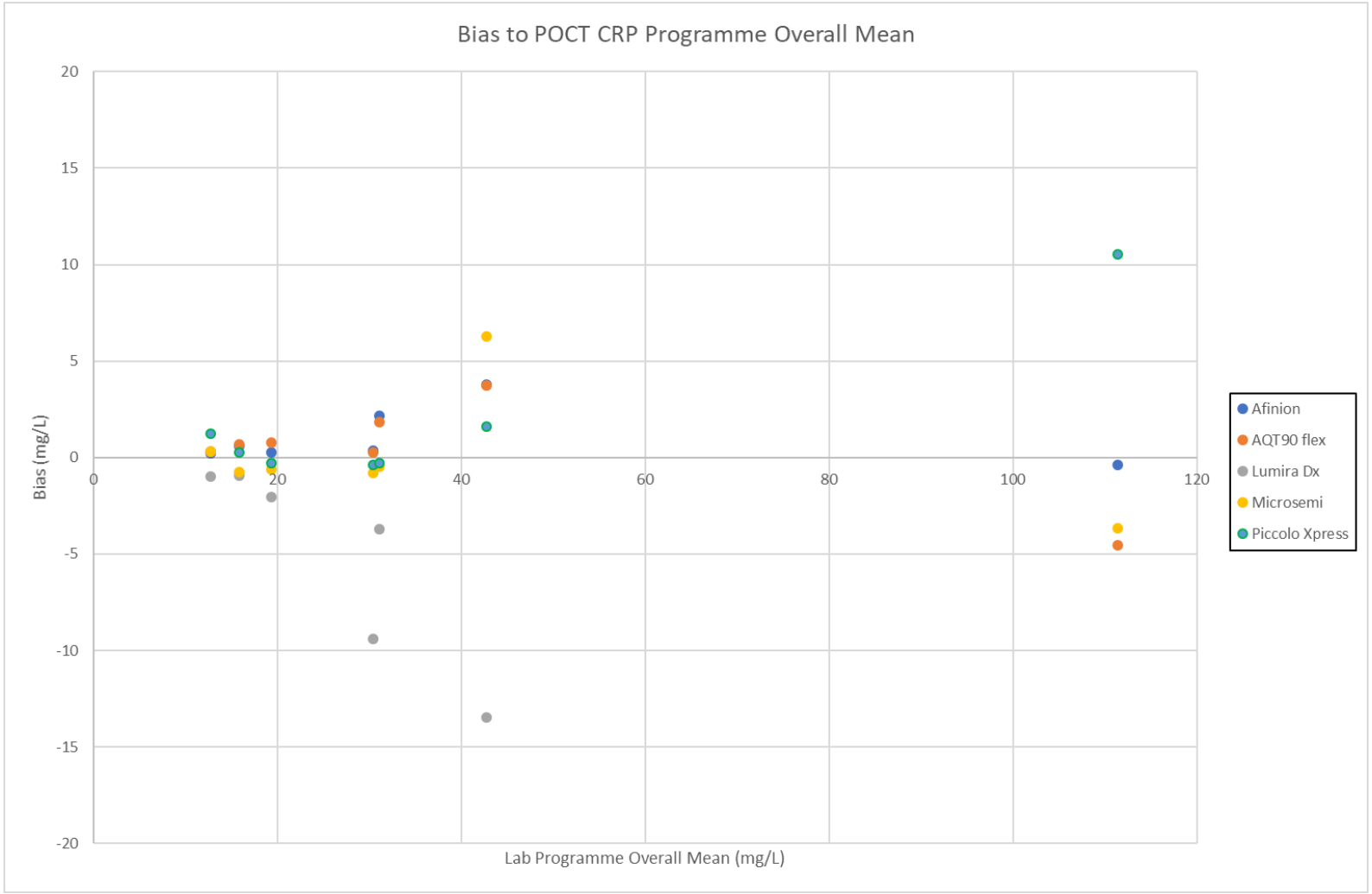
POCT CRP CV


POCT CRP CV
Overall CV %
CRP (mg/L)
0
5
10
15
20
25
30
0
20
40
60
80
100
120
140
160
180
R1-R5
R9-R9
R10-R13
R14-17
R18-21
R22-25
CX0621-CX1221
CX0222 - CX0822
CX1022-CX0823
Log. (CX1022-CX0823)

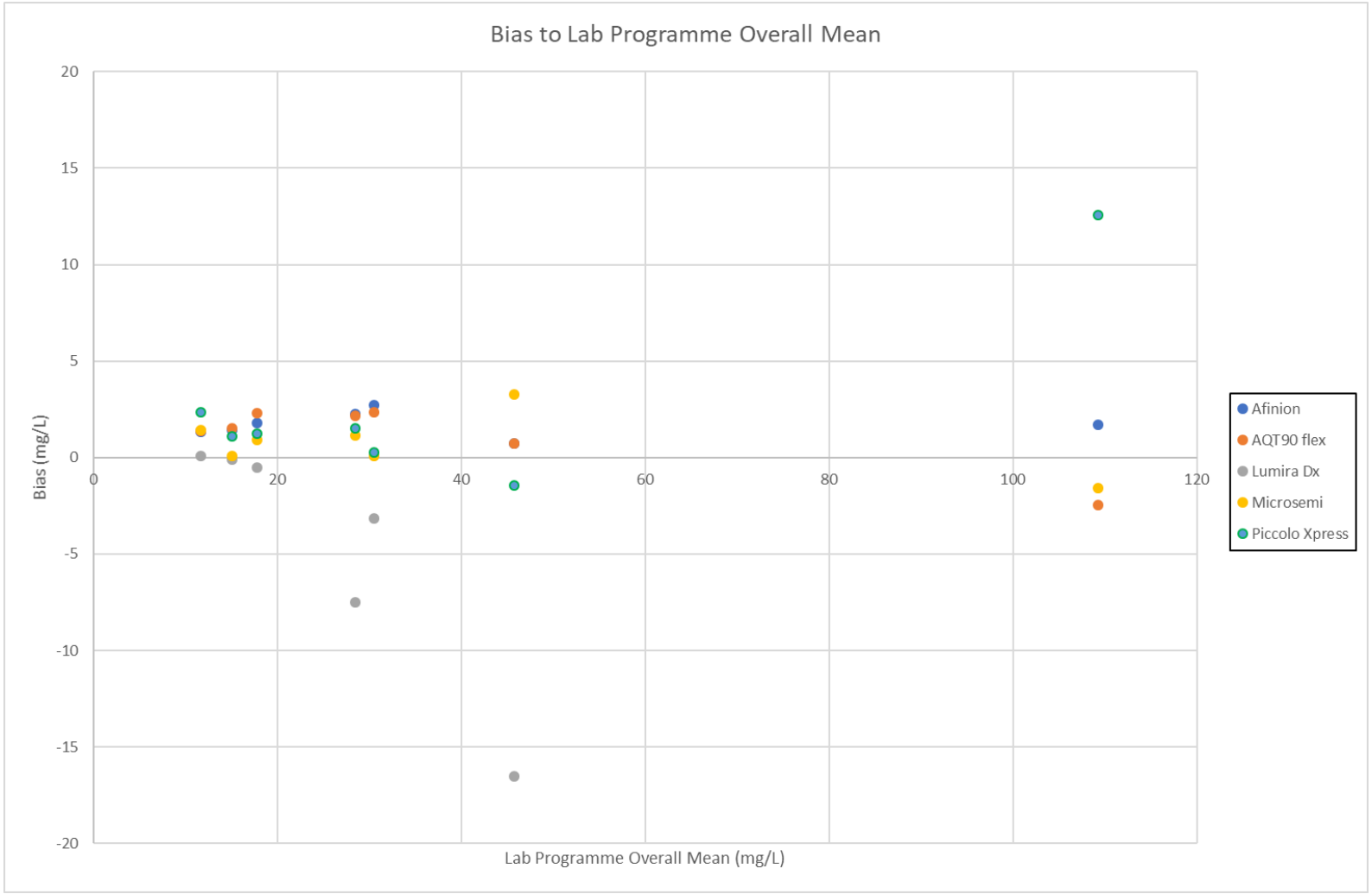
POCT CRP CV – Lab Comparison



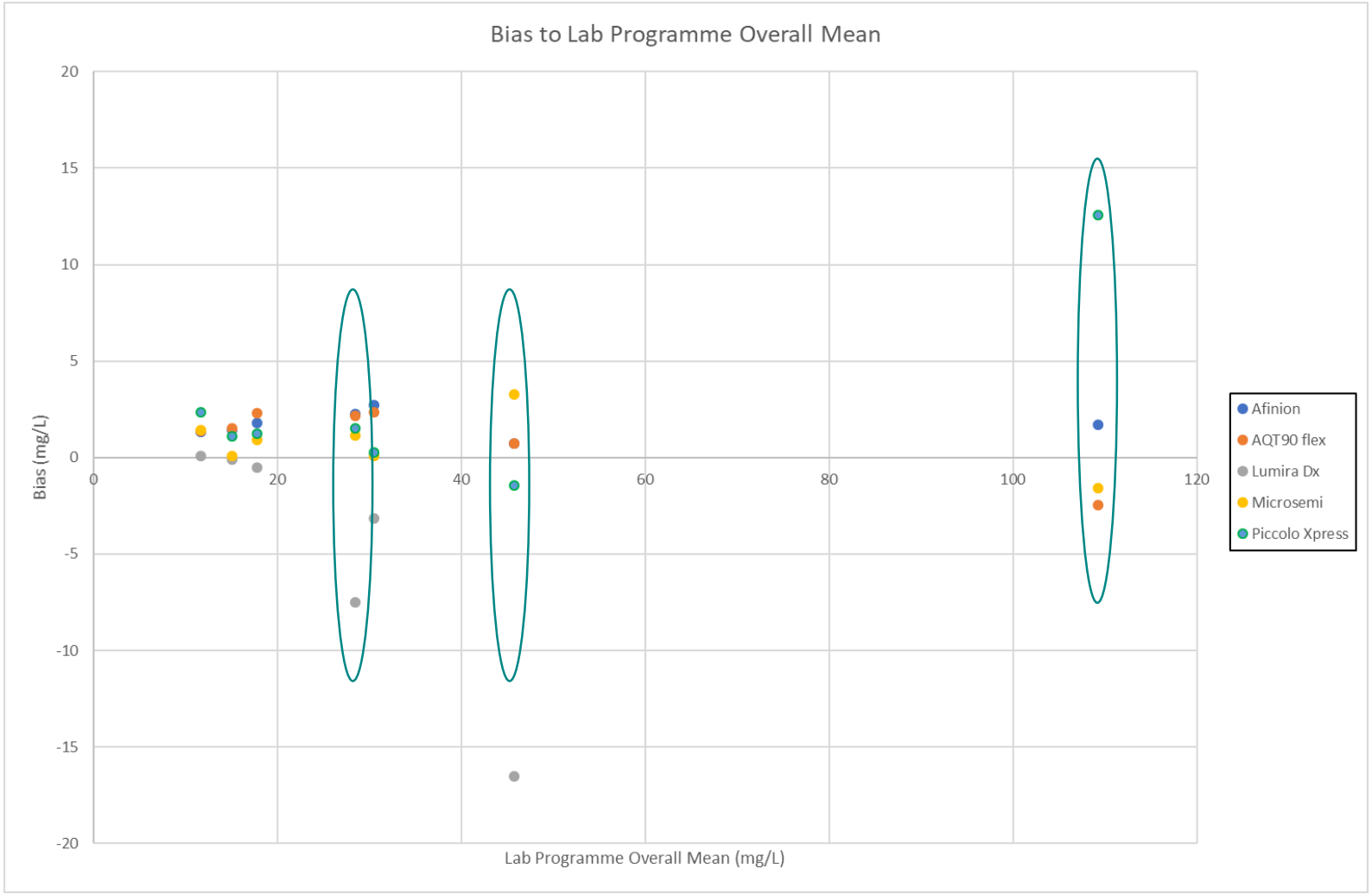
POCT Devices – Bias to POCT CRP Overall Mean



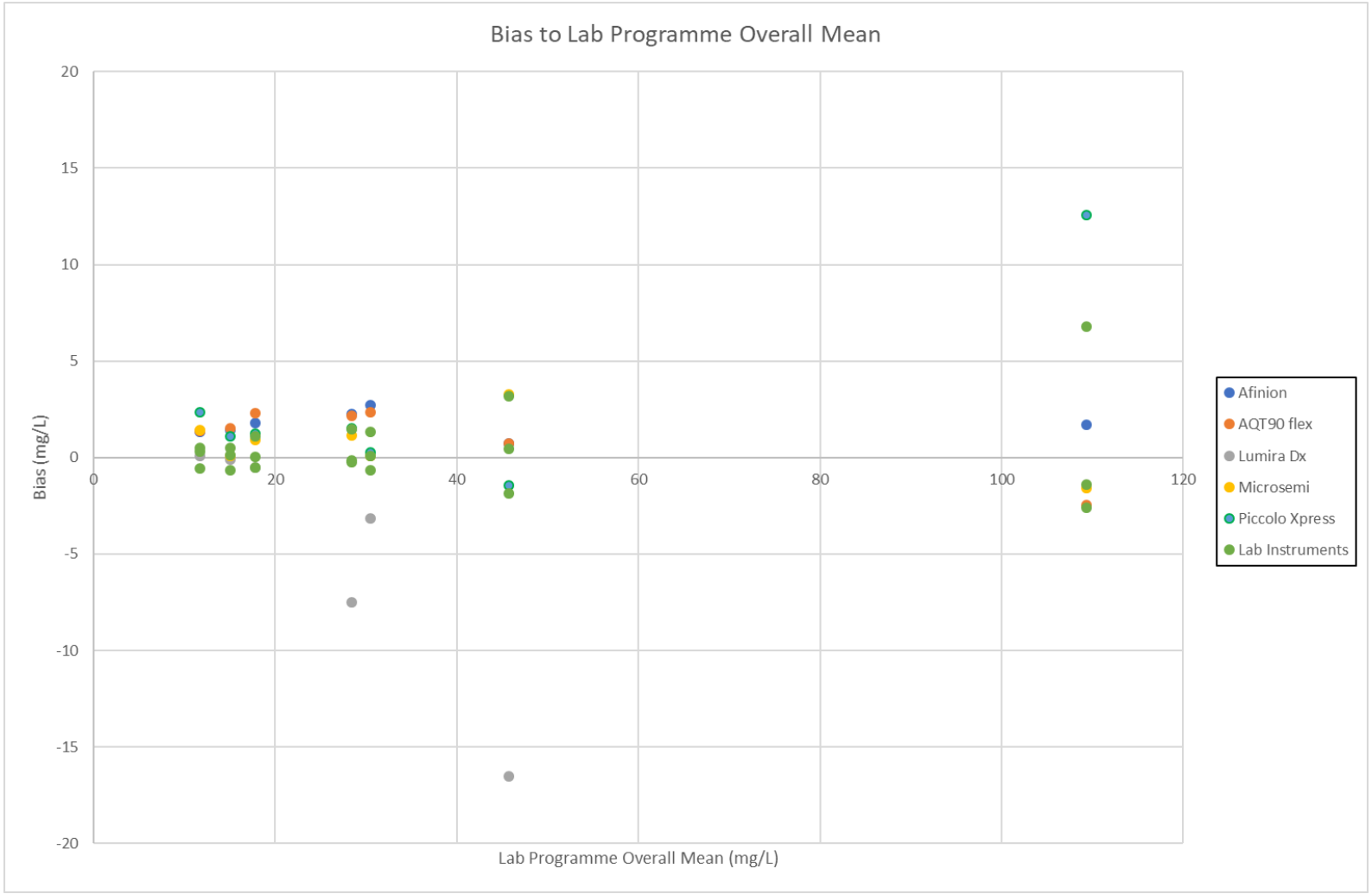
POCT Devices – Bias to Lab CRP Overall Mean



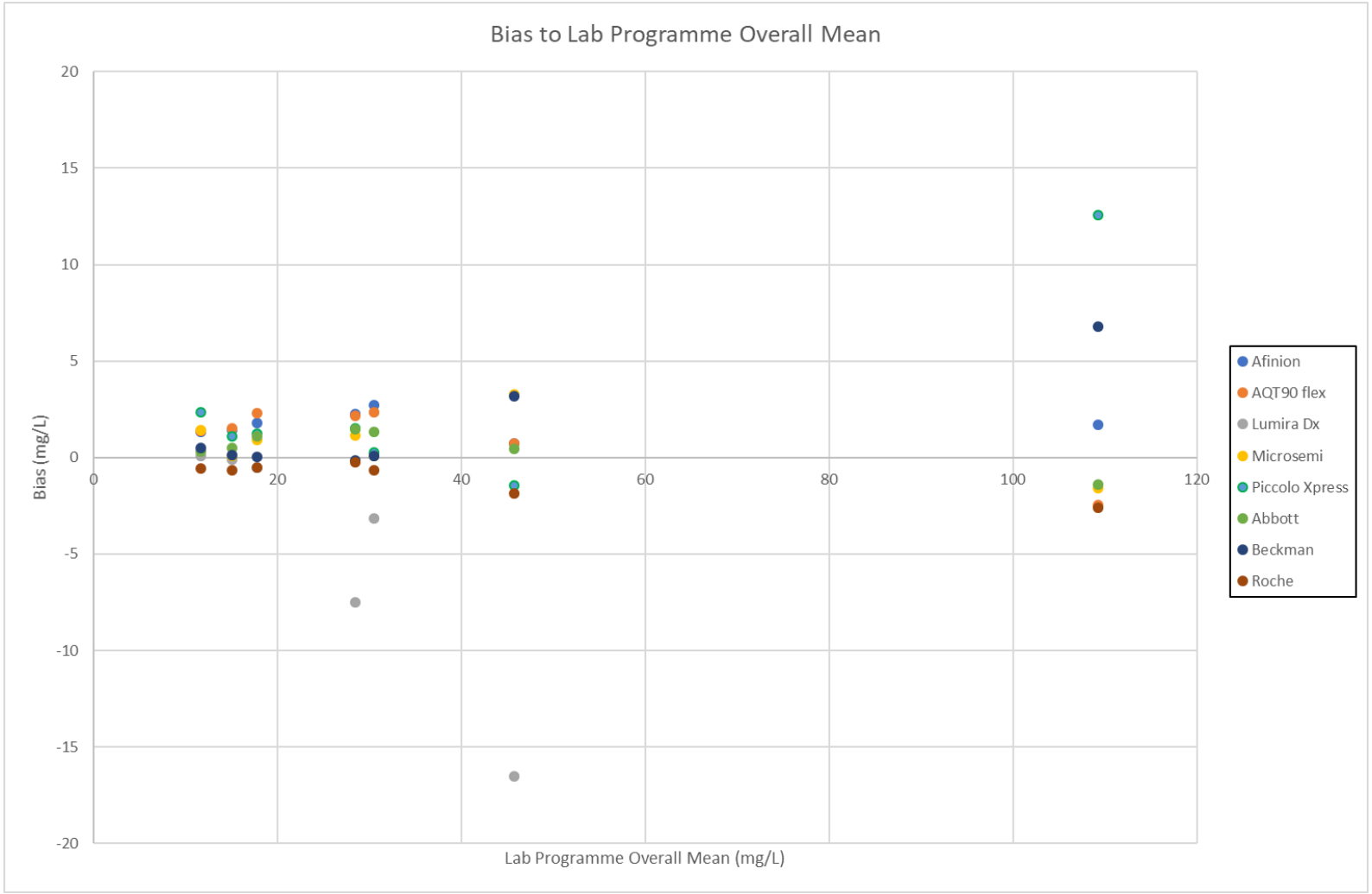
POCT Devices – Bias to Lab CRP Overall Mean – Spiked v Endogenous samples



Lab Devices – Bias to Lab CRP Overall Mean



Lab Devices – Bias by Instrument



The All Wales Primary Care Management of Acute COPD Exacerbation Guideline

Performance at Cut-offs

Lab Mean 17.8 mg/L (Endogenous Sample)

Sample is TRUE Negative (CRP <20)

Method: **Afinion**
True NEG (<20) = 20
False POS (20-40) = 20
Specificity = 50%

Performance at Cut-offs

Lab Mean 17.8 mg/L

Sample is TRUE Negative (CRP <20)

Method: **Afinion**
True NEG (<20) = 20
False POS (20-40) = 20
Specificity = 50%

Method: **AQT90 Flex**
True NEG (<20) = 2
False POS (20-40) = 7
Specificity = 22%

Performance at Cut-offs

Lab Mean 17.8 mg/L

Sample is TRUE Negative (CRP <20)

Method: **Afinion**
True NEG (<20) = 20
False POS (20-40) = 20
Specificity = 50%

Method: **AQT90 Flex**
True NEG (<20) = 2
False POS (20-40) = 7
Specificity = 22%

Method: **LumiraDx**
True NEG (<20) = 8
False POS (20-40) = 2
Specificity = 80%

Performance at Cut-offs

Lab Mean 17.8 mg/L

Sample is TRUE Negative (CRP <20)

Method: **Afinion**
True NEG (<20) = 20
False POS (20-40) = 20
Specificity = 50%

Method: **Microsemi**
True NEG (<20) = 3
False POS (20-40) = 2
Specificity = 60%

Method: **AQT90 Flex**
True NEG (<20) = 2
False POS (20-40) = 7
Specificity = 22%

Method: **LumiraDx**
True NEG (<20) = 8
False POS (20-40) = 2
Specificity = 80%

Performance at Cut-offs

Lab Mean 17.8 mg/L

Sample is TRUE Negative (CRP <20)

Method: **Afinion**
True NEG (<20) = 20
False POS (20-40) = 20
Specificity = 50%

Method: **AQT90 Flex**
True NEG (<20) = 2
False POS (20-40) = 7
Specificity = 22%

Method: **LumiraDx**
True NEG (<20) = 8
False POS (20-40) = 2
Specificity = 80%

Method: **Microsemi**
True NEG (<20) = 3
False POS (20-40) = 2
Specificity = 60%

Method: **Piccolo Xpress**
True NEG (<20) = 6
False POS (20-40) = 5
Specificity = 55%

The All Wales Primary Care Management of Acute COPD Exacerbation Guideline

Performance at Cut-offs

Lab Mean 45.8 mg/L (Spiked sample)

Sample is TRUE Positive (CRP >40)

Method: **Afinion**
False NEG (20-40) = 2
True POS (>40) = 96
Sensitivity = 93%

Method: **AQT90 Flex**
False NEG (20-40) = 1
True POS (>40) = 8
Sensitivity = 89%

Method: **LumiraDx**
False NEG (20-40) = 19
True POS (>40) = 2
Sensitivity = 10%

Method: **Microsemi**
False NEG (20-40) = 0
True POS (>40) = 9
Sensitivity = 100%

Method: **Piccolo Xpress**
False NEG (20-40) = 0
True POS (>40) = 7
Sensitivity = 100%

Suspected acute respiratory infection in over 16s: assessment at first presentation and initial management (NG237)

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- offer immediate antibiotics if the CRP level is more than 100 mg/litre
- consider a back-up antibiotic prescription if the CRP level is between 20 mg/litre and 100 mg/litre
- do not routinely offer antibiotics if the CRP level is less than 20 mg/litre.

1.3.5 Follow seasonal advice from the UK Health Security Agency (UKHSA) on managing influenza-like illness.

Performance at Cut-offs

Lab Mean 109.3 mg/L (Spiked sample)

Sample is TRUE Positive (CRP >100)

Method: **Afinion**
False NEG (<100) = 0
True POS (>100) = 39
Sensitivity = 100%

Method: **Microsemi**
False NEG (<100) = 2
True POS (>100) = 6
Sensitivity = 75%

Method: **AQT90 Flex**
False NEG (<100) = 1
True POS (>100) = 9
Sensitivity = 90%

Method: **Piccolo Xpress**
False NEG (<100) = 0
True POS (>100) = 7
Sensitivity = 100%

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Thank you

Any questions