

PTS Diagnostics A1CNow⁺: A Valuable Tool in a Value-Based World

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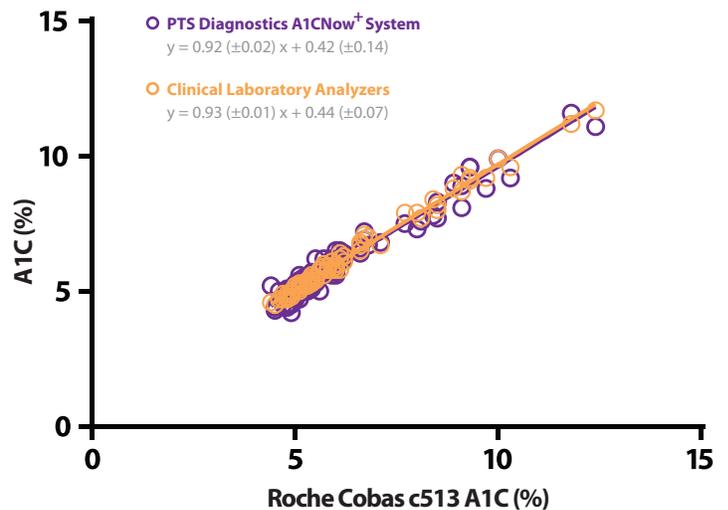
BACKGROUND

Value-based medicine is a new healthcare model to shift physician focus from the quantity of services and revenue generated to quality and value of healthcare provided. The basis for this model is the idea of the right care for the right patient in the right environment at the right time, also known as Patient Centered Medical Home (PCMH). Point-of-care A1C testing can maximize patient and provider engagement by obtaining the results in real-time which allows for effective communication, healthy discussions, and improved healthcare. This study evaluated the accuracy of A1CNow⁺ as a tool to assist with PCMH for diabetes management.

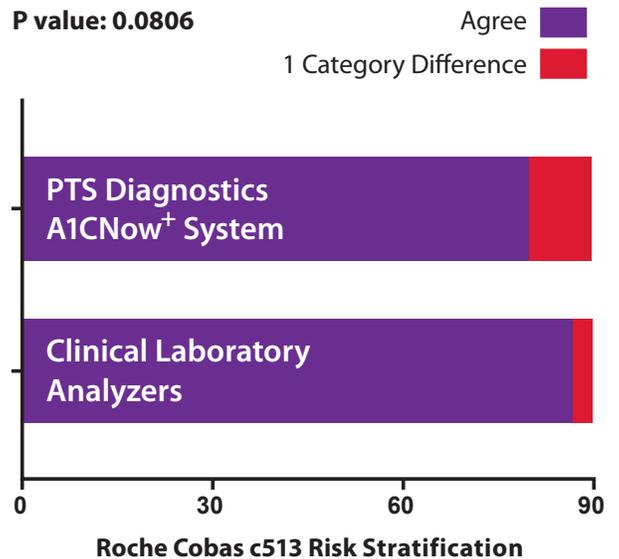
METHODS

Blood was collected from PTS employees. A1C values ranged from 4.4 - 12.4 %A1C for a total of 90 data points. Capillary blood was tested on the PTS Diagnostics A1CNow⁺ system while venous blood was tested at PTS Diagnostics on the Tosoh G8 and Roche Cobas[®] Integra[®] 400 plus as clinical laboratory comparators. For reference, venous blood was tested at LabCorp on the Roche Cobas c513. Deming regression analysis was used to evaluate accuracy and paired differences to measure bias. Clinical risk was assessed using A1C clinical cut points of < 5.7, 5.7 - 6.4, and ≥ 6.5 %A1C. Fisher's exact test was used to assess differences amongst methods.

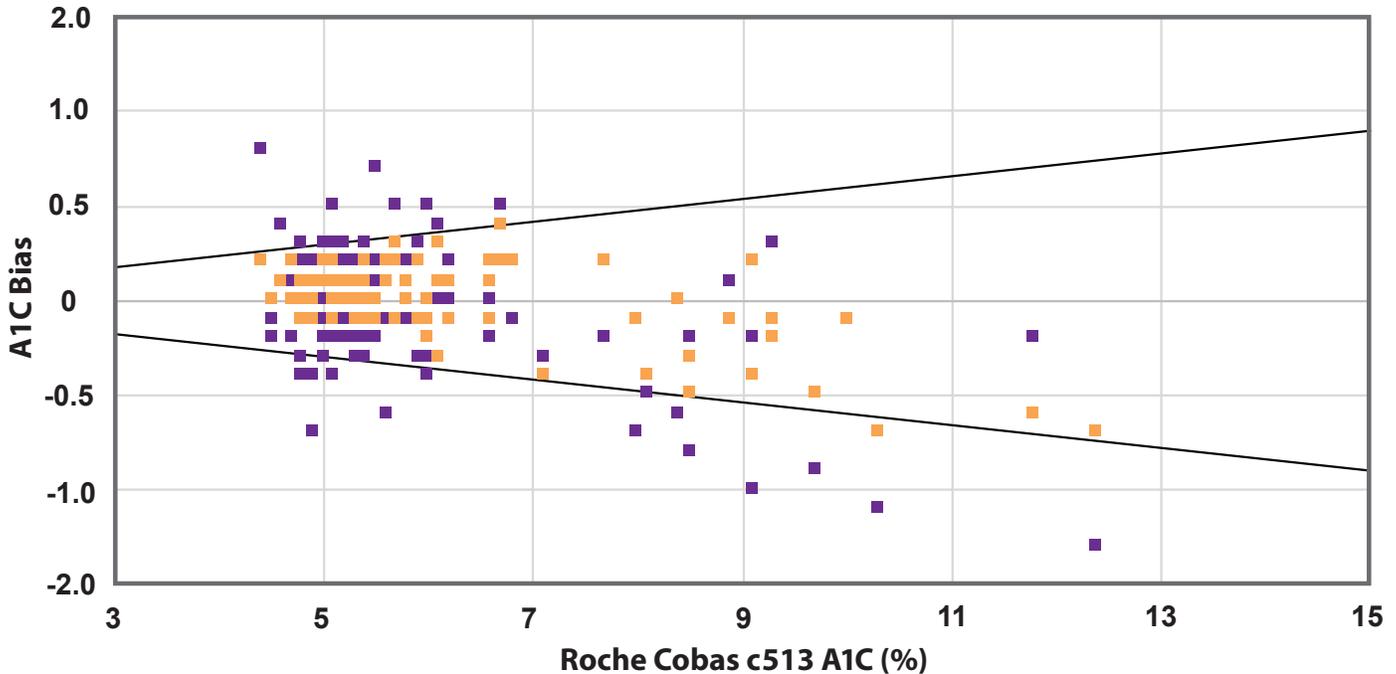
A1C DEMING REGRESSION



A1C CLINICAL RISK



A1C BIAS PLOT



■ PTS Diagnostics A1CNow⁺ System

Average Bias -0.83%

■ Clinical Laboratory Analyzers

Average Bias +0.17%

RESULTS

Average paired percent bias was -0.83% for the A1CNow⁺ and +0.17% for the clinical laboratory analyzers. Slopes were 0.92 and 0.93 ($p=0.35$) and intercepts were 0.42 and 0.44 ($p=0.098$) for the A1CNow⁺ and clinical laboratory, respectively. Clinical risk agreement was 89% for A1CNow⁺ and 97% for clinical laboratory analyzers ($p=0.08$).

CONCLUSION

The A1CNow⁺ was shown to be as accurate as the clinical laboratory in measuring A1C. Risk analysis showed no statistical difference between the clinical laboratory and A1CNow⁺ in classifying A1C clinical cut points. The A1CNow⁺ is a valuable tool to help meet the goals of the Quadruple Aim which seeks to improve the health of the population, improve the patient experience of care, improve the provider experience of giving care, and reduce the cost of healthcare in a value-based world.



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