

Validation of an Automated Adenoma Detection Rate



McKenzie Needham BS¹, David Thomas Burns BA¹, Heather Duncan AS³, Jason D. Conway MD², Jared Rejeski MD²
¹Wake Forest School of Medicine, ²Atrium Health Wake Forest Baptist Dept. of Gastroenterology, ³Wake Forest Dept. of Biostatistics and Data Science

BACKGROUND:

- Adenoma Detection Rate (ADR) is an internationally recognized benchmark in the performance of colonoscopy, representing an important endoscopist quality metric.
- With the advent of endoscopy software within electronic health record (EHR) systems, ADR can be calculated automatically.
- We aimed to compare automated ADR based on coding parameters from Lumens software within EPIC with manually calculated ADR.

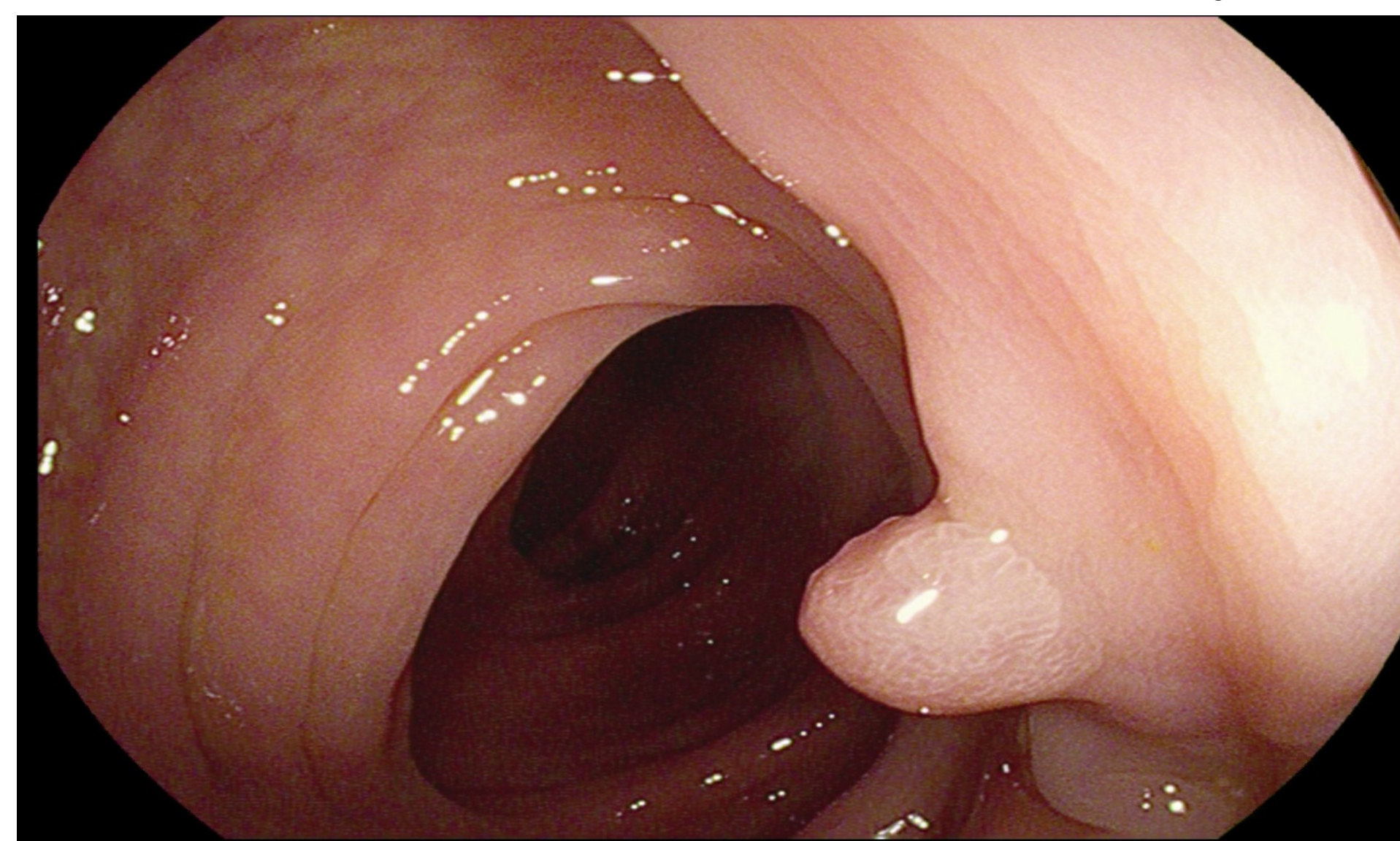


Figure 1: Polyp found on screening colonoscopy.

METHODS:

Outpatient screening colonoscopies performed at Atrium Health Wake Forest Baptist from 2/1/22 – 5/10/22 were evaluated for indication, endoscopic findings, histology, ADR data, and previously validated cecal withdrawal times.

Manual ADR calculation was performed as per the CMS 2019 definition. Automated ADR was performed within the EHR by extracting exams performed for the z.12.11 and z.12.12 indications.

Data from individual endoscopists was normalized and compared with a single sample T-test.

Aggregate ADR rates were compared using Chi-squared analysis.

RESULTS:

- A total of 1,193 colonoscopies met screening criteria over this 98-day period.
- Data from endoscopists with less than 30 colonoscopies performed over this 98-day period was excluded.
- ADR in screening colonoscopies in those ≥ 50 years was 4.0% higher than those ≥ 45 years; however, this did not meet statistical significance.

Manual vs. Automated ADR			
Automated ADR (%)	Manual ADR (%)	p-value	% Difference CI
34.97	35.84	0.79	0.87 (-1.4 – 9.4)

Table 1: Comparison of manual ADR and automated ADR.

- The automated ADR calculations in the EHR included a total of 503 exams in individuals ≥ 50 .
- An adequate prep was seen in 92% of cases, with an average BBPS of 7.3.

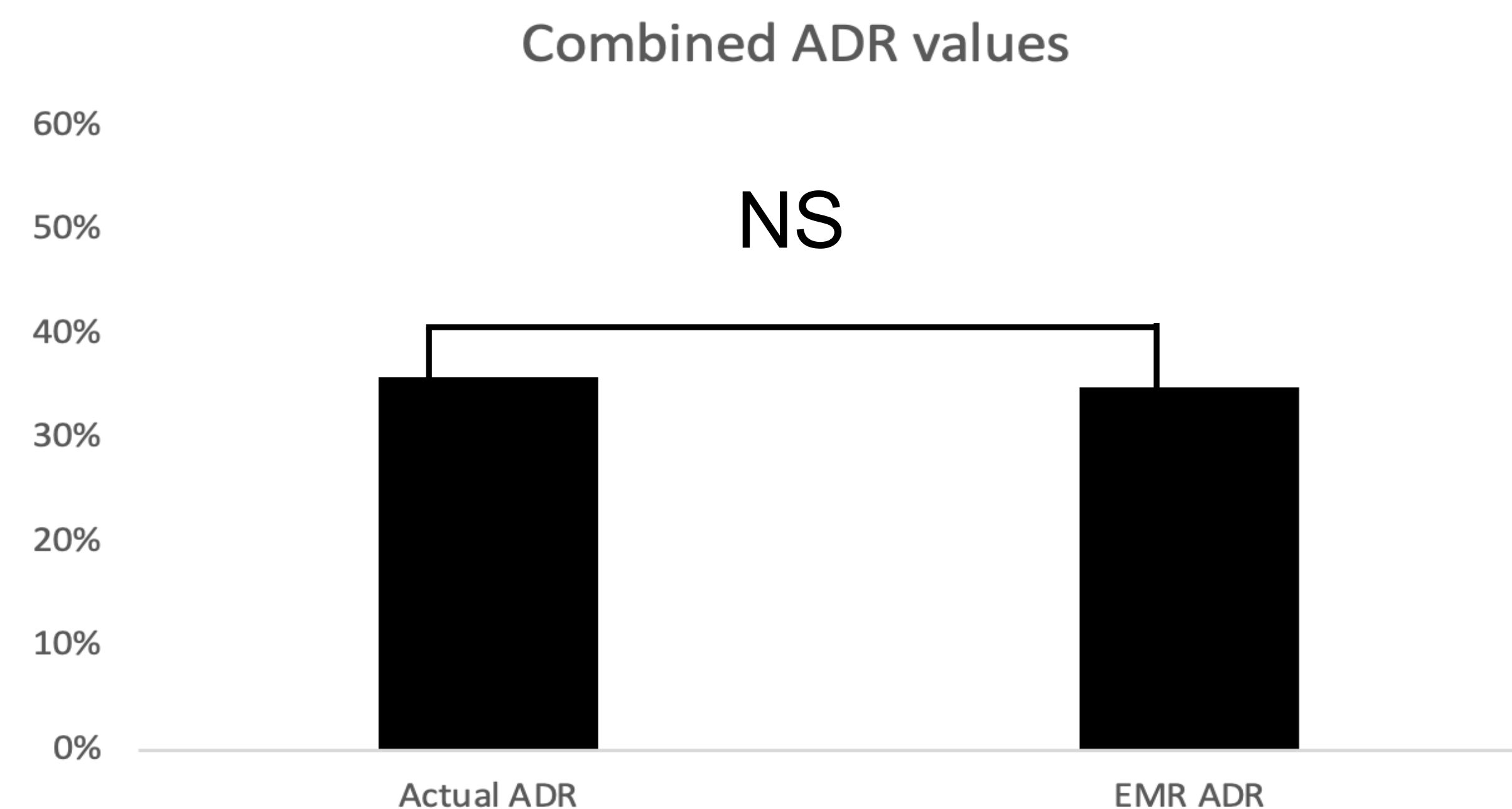


Figure 2: Comparison of actual ADR and EMR ADR.

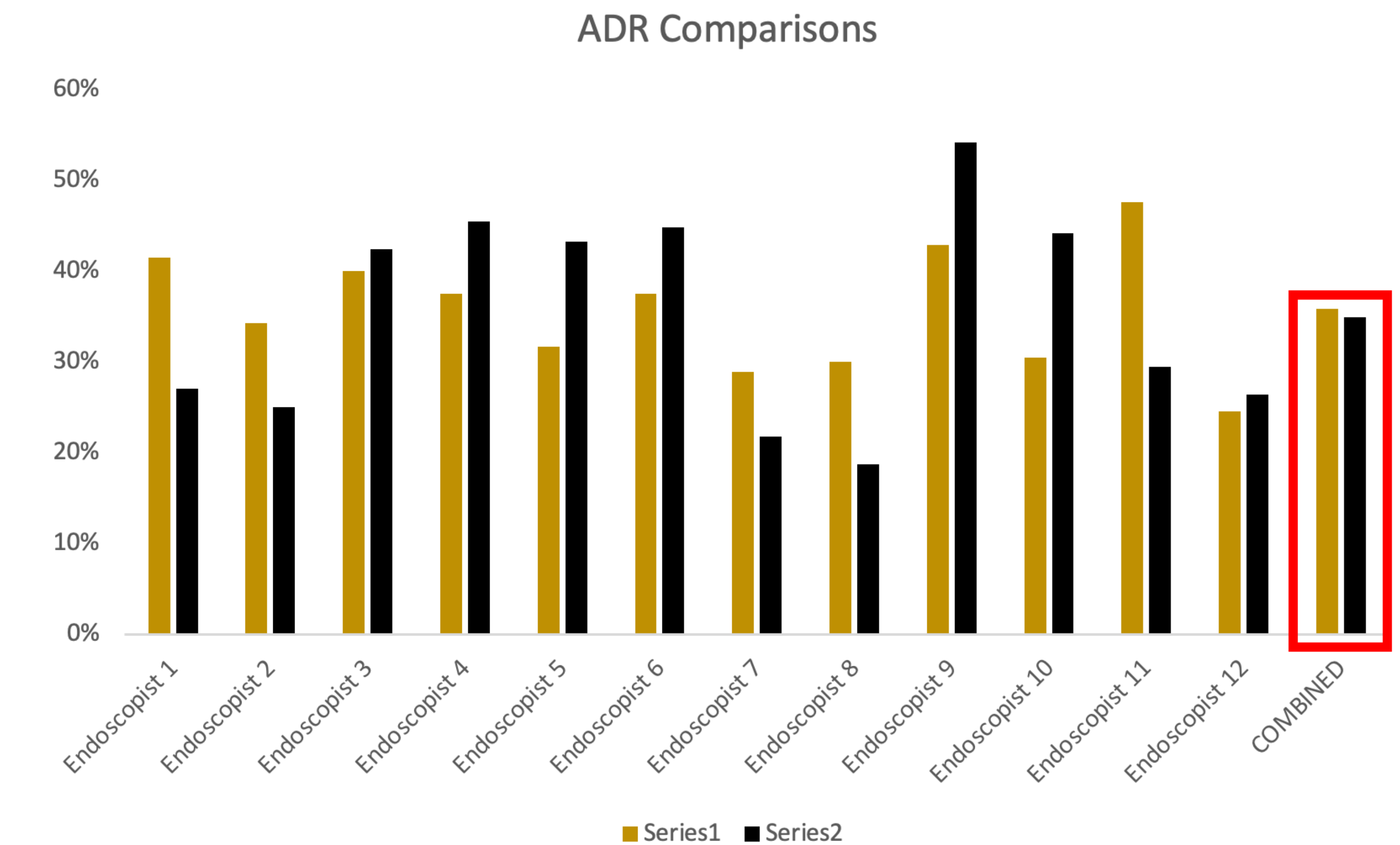


Figure 3: Comparison of manual ADR and automated ADR for each endoscopist.

DISCUSSION:

- An automated ADR will not strictly adhere to CMS definitions of ADR.
- This index, however, appears to be an adequate surrogate marker of ADR.
- Using an automated ADR simplifies an otherwise time-intensive process.
- Additionally, implementation of the automated ADR may allow for cost savings and healthcare resource conservation.
- Because the Lumens automated ADR has proven to be reliable, this provides physicians with flexibility when deciding how to calculate ADR (automated vs. manual).

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