Do Prepopulated Impressions Affect the Rate of Diagnosis in Radiology Reports?

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Introduction
Structured reporting has been increasingly adopted by radiology practices over the past decade. As this style of reporting has become more common, strategies to improve the efficiency of reporting have been developed. One strategy to increase reporting efficiency has been to prepopulate the most common response in a data entry field.

Hypothesis
The purpose of this study was to determine if a prepopulated impression affects the final diagnosis in a structured radiology report.

Methods
A retrospective case control study was performed. All first-time hip ultrasound examinations performed in infants with a concern for developmental hip dysplasia between January 1 and June 30, 2017 were included in this study. Prior to April 1, 2017 all ultrasound reports defaulted the findings and impression fields for each hip to a Graf 2a hip morphology. After April 1, the report was changed so that the findings and impression sections defaulted to a Graf 1 morphology for each hip. No other components of the report were changed. The final radiology reports were reviewed by a single reviewer who documented the Graf morphology reported in the impression for each hip. Impressions in which the final diagnosis did not adhere to the Graf classification were excluded. The frequency of Graf 1 and Graf 2a morphology was compared at both time points using a Chi-squared test with p<0.05 considered significant.

Results
A total of 248 hip ultrasounds were performed on 496 hips before the report was changed (Graf 2a default) and 225 hip ultrasounds were performed on 450 hips after the change was implemented (Graf 1 default). 6 hips were excluded due to a non-standard impression (3 before the change, 3 after the change). With Graf 2a as the default text, 351 hips (71%) were diagnosed as Graf 1, 121 (25%) as Graf 2a, and 21 as greater than Graf 2a (4%). With Graf 1 as the default text, 321 hips (72%) were diagnosed as Graf 1, 105 (23%) as Graf 2a, and 21 (5%) as greater than Graf 2a. There was no significant difference in the number of hips diagnosed as either Graf 1 or Graf 2a (p= 0.31) after the change to the default impression.

Conclusion
Prepopulated content in structured reports does not affect the final diagnosis.

Statement of Impact
Our findings support the practice of making the most commonly selected element the prepopulated, default choice.

Keywords
prepopulated text, structured reporting, default diagnosis